INDEX TO SUBJECTS

Α

Abdominal mass, renal cell carcinoma in a pilot-1064 Abdominal pain, pancreatitis during long-duration lunar mission-570 Abstracts 90th Annual Scientific Meeting-153 not presented-745 Acceleration aircrew conditioning program impact on +Gz tolerance-764 cervical load with helmet-mounted display in air combat maneuvering-834 comparison of three anti-G trouser systems-925 management of F-16 pilot after spontaneous splenic rupture-1055 Accidents, aviation associated with SODA waivers-1034 aviation safety vs. medical confidentiality-872 disclosing pilot health information for investigation of-872 fatal night-time helicopter emergency medical service-396, 738 (Letter) hot air balloons tours in Cappadocia, Turkey-123 injuries due to excessive landing airspeed-355 medical review of fatal high-G aerobatic flight accidents-959 preflight risk assessment for HEMS operations-792 speech analysis for fatigue in pilot before-415 U.S. Army parachute mishap fatalities-637 Acoustic stimuli, high altitude performance of earphones-655 Actigraphy pilot sleep in long-range commercial flights-109, E1(Apr) rest and activity patterns in military aviators-48 Action boundary, proximity effects on perceptual-motor judgments-1000 ACTN-3 genotype, +Gz tolerance, body composition, and fitness-1055 Adaptive ground control system, for multiple unmanned aerial vehicles-841 Adefovir, for chronic hepatitis B in aircrew-37 Adenoma, pituitary-742 Aerobatic flight, medical review of fatal high-G accidents-959 Aerobic capacity, relationship with other performance factors-362 Aerobic performance, in psychophysiological training of Special **Operations forces-953** Aeromedical certification accidents associated with SODA waivers-1034 association of medical factors with mortality in U.S. aviators-938 optimum duration of first-class aeromedical certificates-484 Aeromedical disposition chronic hepatitis B and nucleos(t)ide analogues-37 Dengue fever-660 Ehlers-Danlos syndrome-583 emotional trauma after deployments-496 eosinophilic esophagitis-986 of F-16 pilot after spontaneous splenic rupture-1061 hypoglycemia and insulinoma-826 internal jugular phlebectasia-37 measles-908 multiple sclerosis in young Asian aircrew-419 otitis media with effusion-462 papillary thyroid carcinoma-910 pituitary adenoma-742 potential migraine-494 renal cell carcinoma-1064

scarlet fever-139 spontaneous diaphragmatic hemiparesis-581 symptomatic sickle cell trait-63 Aeromedical evacuation, effects on polytraumatized casualties-1016, E2(Dec) Aerospace Medical Association (AsMA) 90th Annual Scientific Meeting and Program Abstracts-149 by-laws-343 global connections-2, 69, 353, 427, 915 with AsMA Global Liaison and Outreach Committee-427 with EU Chief Medical Officers' Forum-2 with European Society of Aerospace Medicine-915 with Iberoamerican Association of Aerospace Medicine-69 with IFALPA and ECA-353 with International Academy of Aviation and Space Medicine-915 through international meetings-915 News-148, 593, 665, 747, 990 past presidents-337 President's Page-2, 69, 149, 353, 427, 505, 599, 679, 755, 832, 915, 991 proposed changes to by-laws-148 theme for 2020 Scientific Meeting-755 Aerospace medicine framework of compared with traditional medicine-991 training in Canada-725 Aerospace Medicine and Human Performance changes in-1 open access option-831 Age optimum duration of first-class aeromedical certificates-484 relationship with other human performance factors-362 Air traffic controllers, video game play as fatigue countermeasure-540 Airborne operations, U.S. Army parachuting fatalities-637 Aircraft maintenance engineering, predicting fatigue-related errors in-860 Aircraft—See also specific aircraft types human factors in airworthiness of-618 tactical, risk of breathing elevated oxygen on-1041 Aircrew, Asian case of multiple sclerosis in-419 third-culture kid pilots-1026 Aircrew-See also Commercial airline crew and Military aircrew restless legs syndrome in-934 return to flying with chronic hepatitis B-37 Airlines-See Commercial airlines, passengers, and pilots Airworthiness, of aircraft, pilot workload as factor in-618 Alcohol-related problems BrAC/BAC as indicator of-488 medical review of fatal high-G aerobatic flight accidents-959 Alertness performance aspects during military helicopter flights-389 video game play countermeasure in air traffic controllers-540 Altitude effects cognitive scores and hypoxia onset-429, E1(May) cumulative, of maximal cabin pressure-513 high altitude performance of earphones-655 model for aeromedical evacuation of severely wounded-1016, E2(Dec) otitis media with effusion in aircrew-462

restless legs syndrome in aircrew–934

Page numbers preceded by an "E" indicate supplemental material for individual articles that can be found online at www.asma.org/journal/online_journal.php.

risk of venous gas emboli in fighter pilots-524 superficial temporal artery aneurysm-53 American College of Cardiology, readiness of naval aviators for new blood pressure guidelines-409 American Heart Association, readiness of naval aviators under new blood pressure guidelines-409 Animal models dynamic rabbit model of ear barotrauma-696 mild hypobaric hypoxia effects on murine skeletal muscle-1050, E1(Dec) simulated aero-evacuation in polytrauma rat model-1016, E2(Dec) Antarctica, performance of military all-women expedition-18 Anti-G straining maneuver (AGSM) by fighter pilot with internal jugular phlebectasia-132 proficiency and depression in trainee military pilots-613 Anti-G trousers, comparison of three systems-925 Anti-viral treatment, in aircrew with chronic hepatitis B-37 Anticipated negative emotions, effect on civil pilots' incident involvement-774 Anxiety effects on simulated flight performance-101 fear of flying in Norwegians-384 Asia Pacific Guidelines, hypertension and obesity among civil aviation pilots-703 Asthma, in rotary-wing military aircrew selection-606 Astronauts, Japanese, mortality among international astronauts-648 Astronauts-See also Spaceflight behavioral assessment using Robotic On-Board Trainer for Research-819 cooling to facilitate metabolic suppression in-475 international, mortality among-647 Kelly-Kornienko 1-year mission on ISS-4 managing radiation-induced illnesses during exploration Cabin altitude spaceflight-966 predicting emergency capsule egress performance-782 Atelectasis, in military aircrew from breathing elevated oxygen-1041 Athletes, precooling for prevention of exertional heatstroke-12 Attention, cumulative effects of maximal cabin pressure-513 Attention deficit and hyperactivity disorder (ADHD), methylphenidate use and flight course success-788 Audiometry, high altitude performance of earphones-655 Auditory stimuli, effect of on flight performance-492 (Letter) Automation, performance in automated rendezvous and docking-447 Autonomic nervous system, cardiac activity in commercial aircrew during flight duty-109, E1(Apr) Aviation Medical Examiner deferrals, optimum duration of firstclass aeromedical certificates-484 Aviation safety-See Safety, aviation Aviation, civil-See Civil aviation pilots Aviation, general-See also Civil aviation and Commercial airlines injuries in accidents due to excessive landing speed-355 Aviators-See Aircrew and Pilots B Bacteria, DprA gene mutation after spaceflight-116, E1(Feb) Barodontalgia, in aircrew and divers-128 Barotrauma, ear

dynamic rabbit model of-696

- otitis media with effusion in aircrew-462
- recurrent middle ear, in student pilots-681
- Behavior assessment, of astronauts using Robotic On-Board Trainer for Research-819
- Binge drinking, BrAC/BAC as indicator of alcohol use problems-488

Bioelectrical impedance spectroscopy body composition in ROTC cadets-813 Biomedical research, on one-year mission on ISS-4 Blebs-See Emphysema-like changes Blood alcohol concentration, as indicator of alcohol use problems-488 Blood oxygen saturation, cognitive scores, and hypoxia onset-429, E1(May) Blood pressure comparison of three anti-G trouser systems-925 hypertension and obesity among civil aviation pilots-703 readiness of naval aviators under new ACC/AHA guidelines-409 Blood volume comparison of three anti-G trouser systems-925 relationship with other human performance factors-362 Body composition ACTN-3 genotype and +Gz tolerance in cadets-1055 of ROTC cadets-813 Body mass measurement device, history of-587 Body position, adaptation to acute changes in gravity and-688 Borrelia, cognitive biases in Lyme disease diagnosis-652 Brain structure, cortical asymmetries in civil aviation pilots-456 Brainwaves dry-EEG monitoring of hypoxia in simulated flight-92 gender differences in dry-EEG during hypoxia-369 Breath alcohol concentration, as indicator of alcohol use problems-488 Bronchoconstriction, in military aircrew from breathing elevated oxygen-1041

- Bullae-See Emphysema-like changes
- Burnout, effect on work ability in flight attendants-601

С

attention network responses-513

risks with sustained vs. continuous high-altitude exposure-524 Calcium, monitoring in space missions-43

Canada

aviation safety vs. medical confidentiality regulations in-872 space medicine training in-725

Canadarm2-819

- Canadian astronauts, mortality among-647
- Cappadocia, Turkey, hot-air balloon tour accidents in-123
- Carbon dioxide, cooling to facilitate metabolic suppression-475 Carbon monoxide, levels in ISS extravehicular mobility unit-84 Cardiology

cardiac activity in commercial aircrew during flight duty-945 quality of in-flight ECGs done by flight attendants-405 template for cardiovascular risk assessment in pilots-730

- Cardiovascular parameters, in comparison of three anti-G trouser systems-925
- Carotid body chemoreceptor function, in military aircrew from breathing elevated oxygen-1041
- Case reports
 - cognitive biases in Lyme disease diagnosis-652
 - Internal jugular phlebectasia in a fighter pilot-132
 - management of an F-16 pilot after spontaneous splenic rupture-1061
 - pancreatitis during long-duration lunar mission-570
 - pneumocephalus due to poor Valsalva technique-566
 - seizure induced by stroboscopic effect of helicopter blades-891
 - speech analysis for fatigue detection of pilot-415
 - squamous cell carcinoma in student aviator-978

superficial temporal artery aneurysm-53

Centrifuge training, depression, and AGSM proficiency in military trainee pilots-613

- Certification, aeromedical accidents associated with SODA waivers-1034 association of medical factors with mortality in U.S. aviators-938 optimum duration of first-class aeromedical certificates-484 Cervical muscles, activity in air combat maneuvering with helmetmounted displays-834 Cervical spine, prevalence of neck pain in fast jet pilots-882 Chemoprophylaxis, of malaria, adherence among aircrew members-643 Chest pain, quality of in-flight ECGs done by flight attendants-405 Chinese astronauts, mortality among-647 Circadian rhythm, pilot sleep in commercial long-range flights-109, E1(Apr) Circulation, adaptation to acute gravity changes-688 Civil aviation pilots-See also Pilots anticipated negative emotions and incident involvement-774 asymmetries of cortical thickness in-456 hypertension and obesity in-703 template for cardiovascular risk assessment in-730 Cockpit ergonomics, cervical load with helmet-mounted display in air combat-834 Cognitive load, effect of on flight performance-492 (Letter) Cognitive performance with cooling to facilitate metabolic suppression-475 correlation with hypoxia onset-429, E1(May) in simulated paragliding flight-851 Cold effects, superficial temporal artery aneurysm-53 Cold-water immersion, precooling in prevention of exertional heatstroke-12 Color vision deficiency, screening in military aircrew applicants-71 Combat casualties, aeromedical evacuation model for polytraumatized patients-1016, E2(Dec) Combat preparedness, high intensity interval training protocols for-32 Commercial airline aircrew barodontalgia in-128 cardiac autonomic activity during flight duty-945 fatigue risk with 4 consecutive days of flight duty-462 otitis media with effusion in aircrew-462 quality of in-flight ECGs taken by flight attendants-405 Commercial airline passengers, flight anxiety in Norwegian-384 Commercial airline pilots cumulative effects of maximal cabin pressure-513 multi-cultural identity effects on attitudes of-1026 optimum duration of first-class aeromedical certificates-488 sleep in long-range and ultra-long-range flights-109, E1(Apr) Compensatory reserve central hypovolemia and menstrual cycle phases-378 exercise-induced changes in-1009 Computed tomography (CT), follow-up of emphysema-like changes in pilots-867 Conditioning program, for military aircrew, impact on +Gz tolerance-764 Cone Contrast Test, in military aircrew applicants-71 Continuous glucose monitoring, in-flight, for pilots on insulin-735 Cooling, to facilitate metabolic suppression-475 Coordination motor abilities, effect of survival training for naval academy cadets on-632 Coping, proactive, in pilots with anticipated negative emotions-774 Cortical thickness, hemispheric asymmetries in civil aviation pilots-456 Cosmonauts—See also Astronauts Mikail Kornienko 1-year mission on ISS-4 voice analysis and task performance in space-624, E1(July) Countermeasures blood flow restricted rowing exercise-440
 - GravitySuit for spaceflight-993

- muscle activation during gravity-independent exercise–506 video game play for fatigue in air traffic controllers–540
- Crashes-See Accidents, Aviation

Critical care, pancreatitis during long-duration lunar mission–570

- Critical power, predicting emergency capsule egress
 - performance-782
 - Cultural background, effect on third-culture kids' attitudes as pilots–1026

D

Death rates—See also Mortality among international astronauts-647 Decompression sickness, risk with sustained vs. continuous highaltitude flight-524 Dehydration, precooling for prevention of extertional heatstroke-12 Dengue fever-660 Dentistry barodontalgia in aircrew and divers-128 fractured tooth stabilization on a submarine in 1970-135 Depression, and AGSM proficiency in trainee military pilots-613 Dermatitis, in scarlet fever-139 Dexmedetomidine, cooling to facilitate metabolic suppression-475 Diabetes mellitus, in-flight glucose monitoring for insulin-treated pilots-735 Diagnostic errors, cognitive biases in Lyme disease diagnosis-652 Diaphragmatic hemiparesis, spontaneous-581 Diversity, multi-cultural identity effect on attitudes of pilots-1026 Diving, barodontalgia in divers-128 DprA gene mutation, in bacteria after spaceflight-116, E1(Feb) Driving under the influence (DUI) convictions, in pilots-488 Drug events, adverse medication adverse reaction, risk stratification model-896 modafinil as stimulant for military aviators-480 Dry-EEG gender differences in during hypoxia-369 monitoring hypoxia in simulated flight-92 Dyspnea, in spontaneous diaphragmatic hemiparesis-581

E

Ear barotrauma dvnamic rabbit model of-696 otitis media with effusion in aircrew-462 recurrent middle ear, in student pilots-681 Earphones, high altitude performance of-655 Eating habits, effect on work ability in flight attendants-601 Edridge Lantern Test, screening for color vision deficiency-71 Education, space medicine training in Canada-725 Ehlers-Danlos syndrome-583 Electrocardiograms (ECG), in-flight quality of-405 Electroencephalography (EEG) dry-EEG monitoring of hypoxia in simulated flight-92 gender differences in dry-EEG during hypoxia-369 Electromyography during gravity-independent resistance exercise-506 neck muscles activity with joint helmet-mounted cueing system-834 Emergency medicine aeromedical evacuation effects on polytraumatized casualties-1016, E2(Dec) fatal night HEMS accidents-396, 738 (Letter) weather-related preflight risk assessment-792 Emotional intelligence, effects on simulated flight performance-101 Emotions, anticipated negative, and civil pilots' incident involvement-774 Emphysema-like changes, follow-up with CT in pilots 40 and older-867

Endocrinology hypoglycemia and insulinoma in a pilot-826 in-flight glucose monitoring for insulin-treated diabetic pilots-735 pituitary adenoma-742 Entecavir, for chronic hepatitis B in aircrew-37 Enterococcus faecium, DprA gene mutation after spaceflight-116, E1(Feb) Environmental factors, impact on military all-women Antarctic expedition-18 Eosinophilic esophagitis-986 Epileptic seizure, induced by stroboscopic effect of helicopter blades-891 Errata-422, 633 Esophagitis, eosinophilic-986 European astronauts, mortality among-647 European Aviation Safety Agency, Chief Medical Officers' Forum-2 European Cockpit Association-353 European Society of Aerospace Medicine-915 Eustachian tube dysfunction dynamic rabbit model of ear barotrauma-696 recurrent middle ear barotrauma in student pilots-681 in scarlet fever-139 Executive control, cumulative effects of maximal cabin pressure-513 Exercise aircrew conditioning program impact on +Gz tolerance-764 changes in compensatory reserve and heart rate complexity with-1009 precooling for prevention of heatstroke-12 predicting emergency capsule egress performance-782 Exercise countermeasures gravity-independent, muscle activation during-506 responses to blood flow restricted rowing-440 Exertional heatstroke precooling for prevention of-12 Experience, pilots' fixation patterns and visibility during taxiing-546

Exploration spaceflight—See Long-duration space missions and Mars missions

Extravehicular activity, space suit injury risk-553

Extreme environments—See Environmental factors Eye movement, of operators of multiple unmanned aerial vehicles–841

F

Fast jet pilots—*See also* Fighter pilots *and* Military pilots. comparison of three anti-G trouser systems for–925 prevalence of neck pain in–882 Fatalities fatal night-time HEMS accidents–396, 738 (Letter) medical review of high-G aerobatic flight accidents–959 preflight risk assessment in HEMS operations–792 U.S. Army parachute mishaps–637 Fatigue

cardiac activity in commercial aircrew during flight duty–945 cumulative effects of maximal cabin pressure–513 modafinil as stimulant for military aviators–480 predicting errors in aircraft maintenance engineering related to–860 rest and activity patterns in military aviators–48 risk in aircrew during 4 days of flight duty–466 speech analysis for pilot sleepiness and–415 wideo rame play countermaceure in air traffic controllare, 540

video game play countermeasure in air traffic controllers–540 Fear of flying, in Norwegian airline passengers–384 Federal Aviation Administration (FAA)

BrAC/BAC as indicator of alcohol use problems–488 medical certification factors and mortality in aviators–938 optimum duration of first-class aeromedical certificates–484

Fighter pilots—See also Military pilots comparison of three anti-G trouser systems for-925 Ehlers-Danlos syndrome in-583 internal jugular phlebectasia-132 management of an F-16 pilot after spontaneous splenic rupture-1055 neck pain in-882 pneumocephalus due to inappropriate Valsalva technique-566 risk of venous gas emboli-524 Fitness ACTN-3 genotype and +Gz tolerance in cadets-1055 body composition in ROTC cadets-813 predicting emergency capsule egress performance-782 Fitness to fly-See Safety, aviation; Aeromedical disposition; and Waivers Fixation patterns, and visibility during taxiing-546 Flight attendants insomnia, burnout, and eating habits in-601 quality of in-flight ECGs done by-405 Flight experience, pilots' fixation patterns and visibility during taxiing–546 Flight performance effect of disorienting stimuli on-492 (Letter) hypoxia hangover after normobaric hypoxia exposure-720 Flight simulator-See also Simulated flight measuring pilot workload in-618 Flywheel training, muscle activation during gravity-independent-506

G

+Gz forces, management of an F-16 pilot after spontaneous splenic rupture–1055 +Gz tolerance aircrew conditioning program impact on–764 and *ACTN-3* genotype in senior cadets, 764 G protection, comparison of three anti-G trouser systems–925 Gas bubble formation, risk with sustained vs. continuous high-altitude flight–524

Gastroenterology

eosinophilic esophagitis, 986 hypothetical pancreatitis case during long-duration lunar mission-570

Gender differences

in dry-EEG during hypoxia–369

in flight anxiety reported in Norway-384

relationship with other human performance factors-362

Gene mutations, in DprA in bacteria after spaceflight-116, E1(Feb)

- Global Liaison Outreach Committee (AsMA)–427, 915
- Glucose monitoring, continuous in-flight, for pilots on insulin–735
- Gravitational changes, adaptation of systemic and pulmonary

circulation-688

GravitySuit, for spaceflight-993

Gynecomastia, in pituitary adenoma-742

Η

Headache, potential migraine, impact of diagnosis–494 Health risks, optimum duration of first-class aeromedical certificates–484 Hearing, high altitude performance of earphones–655 Hearing impairment and noise exposure in Swedish Air Force pilots–757 in scarlet fever–139 Heart rate, in predicting pilot workload–618 Heart rate complexity, exercise-induced changes in–1009 Heart rate variability

in commercial aircrew during flight duty-945 exercise-induce changes in-1009

Heatstroke, precooling for prevention of exertional-12

Helicopter Emergency Medical Service (HEMS) analysis of fatal night accidents-396, 738 (Letter) weather-related preflight risk assessment-792 Helicopter pilots performance aspects during military flights-389 superficial temporal artery aneurysm-53 Helicopter Underwater Egress Training, preferred retraining intervals for-800 Helicopters asthma in selection of military aircrew for-606 seizure induced by stroboscopic effect of blades-891 Helmet-mounted displays, neck muscle activity during air combat maneuvering-834 Hematocrit, relationship with other human performance factors-362 Hemodynamics central hypovolemia and menstrual cycle phases-378 comparison of three anti-G trouser systems-925 Hemorrhage, model for aeromedical evacuation of severely wounded–1016, E2(Dec) Hepatitis B, return to flying for aircrew being treated for-37 High intensity interval training, protocols for combat preparedness-32 High-G training, AGSM proficiency and depression in trainee pilots-613 History early aviation and the movies-423 Focus on Aerospace Medicine History-65, 144, 423, 501, 587 fractured tooth stabilization on a submarine in 1970-135 Margaria, Rodolfo-982 Mutke, Hans Guido-144 Space Station Freedom and Health Maintenance Facility-65 This Month in Aerospace Medicine History-68, 147, 425, 426, 504, 592, 664, 744, 830, 914, 989, 1069 Thornton, William-587 von Diringshofen, Heinz-501 Hot air ballooning, tour accidents in Cappadocia, Turkey-123 Human papillomavirus, oropharyngeal squamous cell papilloma in a student aviator-978 Human performance—See also Cognitive performance compensatory reserve and heart rate complexity as metrics of-1009 cumulative effects of maximal cabin pressure-513 effects of sex, age, blood volume, and Vo_{2max}-362 emotional intelligence effects during simulated flight-101 in manual and automated rendezvous and docking-447 medication adverse reaction, risk stratification model-896 of all-woman military Antarctic expedition-18 performance aspects during military helicopter flights-389 psychophysiological training in Special Operations forces-953 responses to blood flow restricted rowing exercise-440 Hypertension and obesity in civil aviation pilots-703 readiness of naval aviators under new blood pressure guidelines-409 Hyperthermia, precooling for prevention of exertional heatstroke-12 Hyperventilation, hyperoxic, in military aircrew from breathing elevated oxygen-1041 Hypobaric chamber tests, dynamic rabbit model of ear barotrauma-696 Hypobaric hypoxia, mild, effects on murine skeletal muscle-1050, E1(Dec) Hypoglycemia, and insulinoma in a pilot-826 Hypothermia, to facilitate metabolic suppression-475 Hypovolemia, central, compensating for during menstrual cycle phases-378 Hypoxia, mild hypobaric, effects on murine skeletal muscle-1050, E1(Dec) Hypoxia training cognitive scores and onset of-429, E1(May)

dry-EEG manifestations in simulated flight-92 gender differences in dry-EEG during-369 hypoxia hangover and flight performance after-720

Iberoamerican Association of Aerospace Medicine-69 Illusions, in flight, spatial disorientation and working memory-531 Imaging cortical asymmetries in civil aviation pilots-456 CT follow-up of emphysema-like changes in pilots-867 Imaging-guided procedures remote, for in-flight evaluation of VIIP/SANS-58, E1(Jan), 422 (Erratum), 579 (Letter) In-flight medical emergencies evaluation of VIIP/SANS-58, E1(Jan), 422 (Erratum), 579 (Letter) myocardial infarction, quality of in-flight ECGs by flight attendants-405 In-flight refueling, risks with sustained vs. continuous high-altitude exposure-524 Incident involvement, anticipated negative emotions effect on-774 Infectious mononucleosis, management of F-16 pilot after spontaneous splenic rupture-1061 Inhalation toxicity, revisions to limits for methanol in spacecraft air-807, E1(Sept) Injuries in general aviation landing accidents-355 model for aeromedical evacuation of polytraumatized casualties-1016, E2(Dec) Insomnia, effect on work ability in flight attendants-601 Instrument meteorological conditions, in fatal accidents on day and night HEMS flights-738 (Letter) Instrument proficiency, in preflight risk assessment for HEMS operations-792 Insulin, continuous in-flight glucose monitoring for pilots on-735 Integrative countermeasures, GravitySuit for spaceflight-993 Internal jugular phlebectasia, in a fighter pilot-132 International Academy of Aviation and Space Medicine-915 International Civil Aviation Organization, optimum duration of first-class aeromedical certificates-484 International Federation of Airline Pilots' Association-353 International schools, multi-cultural identity effect on attitudes of pilots from-1026 International SOS, for local medical expenses if not near military base-583 International Space Station 1-year mission on-4 CO levels in extravehicular mobility unit-84 urea and minerals monitoring on-43 Interval training, for combat preparedness-32 Intracranial pressure, syndrome of visual impairment and, in-flight evaluation-58, E1(Jan), 422 (Erratum) Intranasal administration, of scopolamine for motion sickness-917 Ishihara Psuedo Isochromatic Plates, screening for color vision deficiency-71 Isolated, confined, extreme (ICE) environments handling dental emergencies in-135 military all-women Antarctic expedition-18 Israeli Air Force, methylphenidate use and flight course success-788 I

Joint helmet-mounted cueing system, neck muscle activity in air combat-834

Κ

Kelly, Scott, one-year mission on ISS-4

Kinetic chain, closed vs. open, in gravity-independent exercise-506

Korean Air Force Academy, *ACTN-3* genotype and +Gz tolerance in senior cadets–1055

Kornienko, Mikhail, one-year mission on ISS-4

Kraken Disorientation Research Device, optimization of-901

L

Lamivudine, for chronic hepatitis B in aircrew-37

Landing accidents—See Accidents, aviation

Life-threatening conditions, pancreatitis during long duration lunar mission–570

Locomotion, subgravity, Rodolfo Margaria's work on-982 Long-duration space missions

biomedical research on one-year mission on ISS-4

hypothetical pancreatitis case during-570

managing radiation-induced illnesses during-966

responses to blood flow restricted rowing exercise-440

Long-range flights

commercial, pilot sleep in–109, E1(Apr) mild hypobaric hypoxia effects on skeletal muscle–1050, E1(Dec) Longevity, in aviators with FAA medical certification–938

Lower body negative pressure

central hypovolenia and menstrual cycle phases and tolerance of-378

GravitySuit for spaceflight-993

Lumbar puncture, ultrasound guided for in-flight evaluation of VIIP/SANS-58, 422 (Erratrum), 579 (Letter)

Lyme disease, cognitive biases in diagnosis-652

Μ

Magnetic resonance imaging, cortical asymmetries in civil aviation pilots–456 Malaria, prophylaxis adherence among aircrew members–643

Malignant neoplasms, papillary thyroid carcinoma in a pilot–910

Manganese toxicity, spacecraft maximum allowable concentrations for Mars dust-709, E1(Aug)

Mars missions

predicting emergency capsule egress performance–782 spacecraft maximum allowable concentrations for manganese in dust from–709, E1(Aug)

Mathematical models, optimizing the Kraken Disorientation Research Device–901

Measles, in a pilot-908

Mechanical loading, with GravitySuit for spaceflight-993

Medical certification

association of medical factors with mortality in U.S. aviators–938 optimum duration of first-class aeromedical certificates–484

Medical confidentiality, vs. aviation safety-872

Medical education, space medicine training in Canada–725 Medications

dexmedetomidine to facilitate cooling and metabolic suppression–475 intranasal scopolamine for motion sickness–917 medical review of fatal high-G aerobatic flight accidents–959 medication adverse reaction, risk stratification model–896 methylphenidate use and flight course success–788 modafinil as stimulant for military aviators–480 nucleos(t)ide analogues for chronic hepatitis B–37

Memory, working, spatial disorientation effect on-531

Menstrual cycle, compensating for central hypovolemia during phase of-378

Mental workload, of operators of multiple unmanned aerial vehicles-841

Messerschmitt 262 aircraft, and Hans Guido Mutke–144 Metabolism

cooling to facilitate suppression of-475

changes in, in saliva and urine samples in space missions–43 Methanol, revisions to limits in spacecraft air–807, E1(Sept) Methylphenidate, flight course success and use of-788 Microgravity-See also Simulated spaceflight and Weightlessness blood flow restricted rowing countermeasure-440 Middle ear barotrauma, recurrent in student pilots-681 Migraine, potential, impact of diagnosis-494 Military aircrew asthma in selection of-606 barodontalgia in-128 conditioning program impact on +Gz tolerance-764 malaria prophylaxis adherence among-643 potential migraine in, aeromedical disposition of-494 PTSD in, aeromedical disposition of-496 risks from breathing elevated oxygen-1041 U.S. Army parachute mishap fatalities-637 Military personnel all-women Antarctic expedition-18 ground control system for operators of multiple unmanned aerial vehicles-841 high intensity interval training protocols for-32 psychophysiological training in Special Operations forces-953 survival training for Polish naval academy cadets-632 Military pilots-See also Fighter pilots AGSM proficiency and depression in trainees-613 dry-EEG monitoring of hypoxia in flight-92 flight school success rates and use of methylphenidate-788 modafinil as stimulant for-480 noise exposure and hearing impairment in-757 performance aspects during helicopter flights-389 rest and activity patterns in-48 risk from breathing elevated oxygen-1041 superficial temporal artery aneurysm-53 symptomatic sickle cell trait in-63 Minerals, monitoring in space missions-43 Modafinil, as stimulant for military aviators-480 Monitoring glucose, continuous in-flight, for pilots on insulin-735 voice analysis and task performance in space-624, E1(July) Mononucleosis, management of F-16 pilot after spontaneous splenic rupture-1061 Mortality-See also Fatalities among international astronauts-647 medical certification factors and mortality in U.S. aviators-938 risks in aeromedical evacuation of polytraumatized casualties-1016, E2(Dec) Motion sickness intranasal scopolamine for-917 susceptibility questionnaire, reliability of Thai version-26 Mouse models, mild hypobaric hypoxia effects on skeletal muscle-1050, E1(Dec) Movies, early aviation and-423 Multi-cultural identity, effect on attitudes of third-culture kid pilots-1026 Multi-Task Battery scores, correlation with hypoxia onset-429, E1(May) Multiple sclerosis, in a young Asian aircrew-419 Muscle strength, during gravity-independent resistance exercise-506 Musculoskeletal injury, risk due to space suit design-553 Mutations, of DprA gene in bacteria after spaceflight-116, E1(Feb) Mutke, Hans Guido-144 Myocardial infarction, quality of in-flight ECGs by flight attendants-405

Ν

National Aeronautics and Space Administration (NASA)—See also Spaceflight

one-year mission on ISS-4

Task Load Index scale in predicting pilot workload-618

Neck muscles, activity in air combat maneuvering with helmetmounted displays-834

- Neck pain, prevalence in fast jet pilots-882
- Netherlands, aviation safety vs. medical confidentiality regulations in–872
- Neuro-ocular symptoms, in spaceflight, GravitySuit as countermeasure for–993

Neurological conditions, in-flight evaluation of VIIP/SANS–58, E1(Jan), 422 (Erratum), 579 (Letter)

Neuroticism, effects on simulated flight performance-101 Night flying

fatal HEMS accidents-396, 738 (Letter)

preflight risk assessment for improved safety in HEMS-792

- Nitrogen washout, risk with sustained vs. continuous high-altitude flight-524
- Noise exposure, hearing impairment in Swedish Air Force pilots–757
- Normobaric hypoxia, hypoxia hangover and flight performance after exposure–720

Nucleos(t)ide analogues, flight safety in aircrew with chronic hepatitis B–37

0

Obesity, and hypertension in civil aviation pilots-703 Occupational health

cortical asymmetries in civil aviation pilots–456 medication adverse reaction, risk stratification model–896 readiness of naval aviators under new blood pressure guidelines–409 Work Ability Index in flight attendants–601

Oncology

papillary thyroid carcinoma in a pilot-910

renal cell carcinoma in a pilot-1064

One-year mission (1YM), implementing biomedical research on ISS-4

Operational safety

behavioral assessment with Robotic On-Board Trainer for Research-819

risk analysis of fatal night HEMS accidents-396

Ophthalmology, screening test for color vision deficiency-71

Oropharyngeal lesions, squamous cell papilloma-978

Otitis media, with effusion in aircrew-462

Otolaryngology, otitis media with effusion in aircrew-462

Oxygen, elevated, risks to military aircrew from breathing-1041

Р

Pain, barodontalgia in aircrew and divers–128 Pancreatectomy, for insulinoma in a pilot–826 Pancreatitis, hypothetical case during long-duration lunar mission–570 Papillary thyroid carcinoma, in a pilot–910 Parachuting, U.S. Army fatalities–637 Paragliding, cognitive function in simulated flight–851 Paraneoplastic syndromes, with renal cell carcinoma–1064 Paratroopers, U.S. Army parachuting fatalities–637 Passengers, flight anxiety reported in Norway–384 Perception-Action Coupling Task (PACT) reliability and stability of–77 shortening time required to increase usability–1000

shortening time required to increase usability–1000 Performance—See Human performance and Cognitive performance Periodization training, reverse, in Special Operations forces–953 Personality, impact on military all-women Antarctic expedition–18 Pharmacokinetics, intranasal scopolamine–917 Phobias, flight anxiety in Norwegian airline passengers–384 Phosphorus, monitoring in space missions–43 Physical fitness

body composition in ROTC cadets-813 predicting emergency capsule egress performance-782 Physiology, Rodolfo Margaria's work on subgravity locomotion-982 Pilots-See also Aircrew, Commercial airline pilots, Helicopter pilots, and Military pilots anticipated negative emotions and incident involvement-774 association of FAA medical certification and mortality-774 BrAC/BAC as indicator of alcohol use problems-488 cardiovascular risk assessment in-730 cortical asymmetries in civil aviation pilots-456 CT follow-up of emphysema-like changes in-867 fixation patterns and visibility during taxiing-546 on insulin, in-flight continuous glucose monitoring for-735 measuring workload in flight simulator-618 medical confidentiality vs. aviation safety-872 medical review of fatal high-G aerobatic flight accidents-959 optimum duration of first-class aeromedical certificates-484 recurrent middle ear barotrauma in student-681 sleep in long-range commercial flights-109, E1(Apr) with SODA waivers, accidents involving-1034 speech analysis for fatigue and sleepiness detection-415 Pituitary adenoma-742 Pneumocephalus, due to inappropriate Valsalva technique-566 Pneumothorax, spontaneous, CT follow-up in pilots 40 and older-867 Polish Naval Academy, survival school training for cadets-632 Positive pressure breathing, by fighter pilot with internal jugular phlebectasia-132 Posttraumatic stress disorder, after deployments, aeromedical disposition of-496 Precooling, in prevention of exertional heatstroke-12 Proactive coping, in pilots with anticipated negative emotions-774 Psychological disorders depression and AGSM proficiency in military trainee pilots-613 PTSD in military aircrew, aeromedical disposition of-496 Psychological flexibility, in training intervention for Special **Operations forces-953** Psychophysiological response, to high intensity interval training

Psychophysiological response, to high intensity interval training protocols for soldiers-32

Pulmonary circulation, adaptation to acute gravity changes–688 Pulmonary oxygen toxicity, in military aircrew from breathing

elevated oxygen-1041 Pulmonology

CT follow-up of emphysema-like changes in pilots-867

spontaneous diaphragmatic hemiparesis-581 Pulse oximetry, cognitive scores and hypoxia onset-429, E1(May)

Pupillometry, in fatigue countermeasure in air traffic

controllers-540

R

Rabbit models, dynamic, of ear barotrauma-696

Radiation sickness, acute, management during exploration spaceflight-966

Radiation, space, managing related illnesses during exploration spaceflight-966

Radiculopathy, cognitive biases in Lyme disease diagnosis-652

Rash, cognitive biases in Lyme disease diagnosis-652

Rat models, simulated aero-evacuation in polytrauma-1016,

E2(Dec)

Reaction time

action boundary proximity effects on perceptual-motor judgments-1000

novel perception-action coupling task-77

Renal cell carcinoma-1064

Republic of Singapore Air Force

color vision deficiency screening in-71

modafinil as stimulant for aviators in-480

Reserve Officers Training Corps (ROTC), body composition of upper- vs. underclass cadets-813

Respiratory disorders, asthma in selection of military aircrew–610 Response time, novel perception-action coupling task–77 Restless legs syndrome, in aircrew–934 Return to flying—*See* Aeromedical disposition Risk assessment anticipated negative emotions in civil pilots–774 medication adverse reaction, risk stratification model–896 optimum duration of first-class aeromedical certificates–484

preflight, for improved safety in HEMS operations–792 spacecraft maximum allowable concentrations for manganese in Mars dust–709, E1(Aug)

template for cardiovascular risk assessment in pilots–730 Robotic On-Board Trainer for Research, behavior assessment using–819

Rotary-wing aircraft—See also Helicopters

asthma in selection of military aircrew for-606 Rowing exercises

blood flow restricted-440

predicting emergency capsule egress performance-782 Royal Netherlands Air Force, retraining intervals for helicopter

underwater egress training-800

S

Safety, aviation accidents associated with SODA waivers-1034 helicopter underwater egress training-800 hot-air balloon tour accidents in Turkey-123 medical review of fatal high-G aerobatic flight accidents-959 optimum duration of first-class aeromedical certificates-484 returning aircrew on treatment for chronic hepatitis B-37 risk analysis of fatal night HEMS accidents-396 vs. medical confidentiality-872 Saliva, minerals monitoring in space missions-43 Scarlet fever, aeromedical disposition-139 Scopolamine, intranasal, for motion sickness-917 Seizure, induced by stroboscopic effect of helicopter blades-891 Sex-See Gender differences Shift work, fatigue countermeasure in air traffic controllers-540 Sick leave, otitis media with effusion in aircrew-462 Sickle cell trait, splenic infarct after altitude exposure-63 Simulated flight cognitive function in paragliding-851 dry-EEG monitoring of hypoxia in-92 emotional intelligence effects on performance-101 hypoxia hangover after normobaric hypoxia exposure-720 measuring pilot workload in-618 spatial disorientation and working memory load-531 optimizing the Kraken Disorientation Research Device-901 Simulated spaceflight—See also Spaceflight muscle activation during resistance exercise-506 responses to blood flow restricted rowing exercise-440 Situation awareness, in manual and automated rendezvous and docking-447 Sleep cardiac activity in commercial aircrew during flight duty and-109, E1(Apr) pilot, in long-range commercial flights-109, E1(Apr) predicting errors in aircraft maintenance engineering-860 rest and activity patterns in military aviators-48 Sleep deprivation, survival school training for Polish naval academy cadets-632 Sleepiness, speech analysis for pilot fatigue and-415 Soft tissue injury, risk due to space suit design-553 Solar particle events, managing radiation-induced illnesses during exploration spaceflight-966

Soldiers-See Military personnel

Sound barrier, Hans Guido Mutke and his Me-262-144 Space suits GravitySuit-993 injury risk from design of-553 Spacecraft Maximum Allowable Concentrations for manganese compounds in Mars dust-709, E1(Aug) for methanol-807, E1(Sept) Spaceflight-associated neuro-ocular syndrome (SANS), in-flight evaluation-58 E1(Jan), 422 (Erratum), 579 (Letter) Spaceflight-See also Commercial spaceflight and Simulated spaceflight automation-aided rendezvous and docking performance-447 biomedical research on 1-year mission on ISS-4 CO levels in ISS extravehicular mobility unit-84 cooling to facilitate metabolic suppression in-475 DprA mutation in bacteria after-116, E1(Feb) emergency capsule egress performance predictors-782 GravitySuit as integrative countermeasure for-993 hypothetical pancreatitis case during-570 in-flight technique for evaluation of VIIP/SANS-58, E1(Jan), 422 (Erratum), 579 (Letter) management of radiation-induced illness during long-duration-966 mortality among international astronauts-647 revisions to limits for methanol in spacecraft air-807, E1(Sept) Robotic On-Board Trainer for Research-819 space suit design, risk of injury from-553 spacecraft maximum allowable concentrations for manganese in Mars dust-709, E1(Aug) urea and minerals monitoring during-43 voice as variable in task performance-624, E1(July) Spatial disorientation effect of on flight performance-492 (Letter) optimizing the Kraken Disorientation Research Device-901 working memory load in simulator-induced event-531 Special Operations forces, psychophysiological training in-953 Speech analysis, for fatigue and sleepiness detection-415 Splenic infarct, after altitude exposure in sickle cell trait-63 Splenic rupture, spontaneous, management of an F-16 pilot after-1061 Squamous cell carcinoma-978 ST elevation myocardial infarction, quality of in-flight ECGs by flight attendants-405 Standards, optimum duration of first-class aeromedical certificates-484 Statement of Demonstrated Ability (SODA) waiver, aviation accidents and-1034 Stimulants, modafinil for military aviators-480 Stress, psychophysiological training in Special Operations forces-953 Stroboscopic effect, epileptic seizure induced by helicopter blades-891 Subgravity locomotion, Rodolfo Margaria's work on-982 Submarines, fractured tooth stabilization in 1970-135 Succession splash, pneumocephalus due to inappropriate Valsalva technique-566 Surgery pancreatectomy for insulinoma in a pilot-826 remote guidance for in-flight evaluation of VIIP/SANS-58, E1(Jan), 422 (Erratum), 579 (Letter) Surveillance, by operators of multiple unmanned aerial vehicles-841 Survival school, training for Polish Naval Academy cadets-632

Systemic circulation, adaptation to acute gravity changes-688 Systems Theoretic Accident Modeling and Processes (STAMP)-396

Т

Taxiing, pilots' fixation patterns and visibility during–546 Team performance, on military all-women Antarctic expedition–18 Technical notes BrAC/BAC as indicator of alcohol use problems-488 high altitude performance of earphones-655 in-flight evaluation of VIIP/SANS-58, 422 (Erratum), 579 (Letter) medication adverse reaction, risk stratification model-896 optimizing the Disorientation Research Device (Kraken)-901 Robotic On-Board Trainer for Research-819 template for cardiovascular risk assessment in pilots-730 Technical skills, performance aspects during military helicopter flights-389 Tension, effects on simulated flight performance-101 Thailand, version of motion sickness susceptibility questionnaire in-26 Third-culture kids, as commercial airline pilots, attitudes of-1026 Thornton, Dr. William-587 Toxicity of manganese compounds in Mars dust-709, E1(Aug) pulmonary oxygen, in military aircrew from breathing elevated oxygen-1041 Training AGSM proficiency and depression in military pilots-613 high intensity interval, for combat preparedness-32 retraining intervals for helicopter underwater egress training-800

- survival school for Polish naval cadets–632 Trauma, model for aeromedical evacuation of severely wounded–1016, E2(Dec)
- Trousers
 - comparison of three anti-G systems for fast jet pilots-925 GravitySuit for spaceflight-993
- Turkey
 - hot-air balloon tour accidents in Cappadocia area-123 restless legs syndrome in aircrew-934
- Tympanometric test, new, for recurrent middle ear barotrauma in pilots-681

U

- U.K. Royal Air Force, comparison of three anti-G trouser systems for-925
- U.S. Air Force—See also Military pilots
- body composition in ROTC cadets-813
- U.S. Army—See also Military pilots
- parachute mishap fatalities-637
- U.S. Navy-See also Military pilots
- readiness under new ACC/AHA blood pressure guidelines-409 Ultra-long-range flights
 - commercial, pilot sleep in-109, E1(Apr)
- mild hypobaric hypoxia effects on skeletal muscle–1050, E1(Dec) Ultrasound-guided procedures, remote, for in-flight evaluation of
- VIIP/SANS–58, E1(Jan), 422 (Erratum), 579 (Letter)
- Underwater egress training, preferred retraining intervals for helicopter aircrew, 800
- Unfit pilots, aviation safety vs. medical confidentiality-872

- United States, aviation safety vs. medical confidentiality regulations in-872
- Unmanned aerial vehicles (UAVs), adaptive ground control system for operators of multiple, 841
- Upper respiratory infection, acute, in scarlet fever-139
- Urea, monitoring in space missions-43
- Urine, minerals monitoring in space missions-43

V

- Valsalva maneuver by fighter pilot with internal jugular phlebectasia–132 pneumocephalus due to inappropriate technique–566 Venous gas emboli, risk in sustained vs. discontinuous high-altitude flight–534
- Vestibular system, optimizing the Kraken Disorientation Research Device-901
- Viral infections
 - dengue fever-660
 - measles in a pilot-908
- returning to flight with treated chronic hepatitis B-37
- Visibility, pilots' fixation patterns during taxiing–546 Visual illusions, spatial disorientation effect on working
- memory-531
- Visual impairment, and intracranial pressure (VIIP), in-flight evaluation of-58, 422 (Erratum), 579 (Letter)
- Voice analysis, as variable in task performance in space–624, E1(July)
- von Diringshofen, Heinz-501

W

- Waivers—See also Aeromedical disposition
- Statement of Demonstrated Ability (SODA)–1034 Women
 - central hypovolemia and menstrual cycle phases-378
- performance on military expedition to Antarctica-18
- Work Ability Index, factors affecting flight attendants–601 Workforce, readiness of naval aviators under new blood pressure guidelines–409
- Working memory, spatial disorientation effect on-531

Workload

- cardiac activity in commercial aircrew during flight duty-109, E1(Apr)
- fatigue risk in airline crew over 4 days of flight duty-466

in manual and automated rendezvous and docking-447

pilot, predicting for a flight test-618

predicting fatigue-related errors in aircraft maintenance engineering-860

Y

You're the Flight Surgeon-63, 139, 419, 494, 496, 581, 583, 660, 740, 826, 908, 910, 986, 1064