A Aircraft carriers, modafinil and pilot landing performance—518 Aircraft maintenance workers, exposure to organophosphate Abstracts, 91st Annual Meeting-125 esters-710 Accidents, aviation Aircraft—See also specific types acceptance of ballistic Chute usage-86 acceptance of ballistic Chute system-86 drug use reported by U.S. pilots-86 accidents in high-performance general aviation—387 fatigue-related mishaps in USAF-440 over-pressurization episodes in E-2D Hawkeye aircrew—970 G-LOC due to push-pull effect in F-16 mishap—51 seat ergonomics and passenger comfort-416 helicopter underwater escape training—962 tactical, vigilance aid for carrier landings-518 in high-performance general aviation aircraft—387 Aircrew—See also Commercial airline crew and Military aircrew spatial disorientation in transport airplanes—65 large-scale EU study of fatigue in-628 Acute mountain sickness, at the South Pole—46 Airframe parachute Acute pulmonary edema, in healthy subjects-662 social acceptance of Chute usage—86 Adaptation, to airsickness after scopolamine treatment—313 Airlines—See Commercial airlines Adaptive tasks, with drones to measure impact of stress—376 Airplane headache—373 Aerial ports, musculoskeletal injuries and automation at—669 Airport terminals Aerobatic flight impact of human microbiome on-651 G-LOC due to push-pull effect in F-16 mishap—51 improving infection control measures at-611 vestibular function and motion sickness in-326 predeparture screening for coronavirus-909 Aeromedical disposition Airsickness, scopolamine treatment and adaptation to—313 atrial fibrillation and recurrent stroke risk-352 Alertness, caffeine and energy drink use by military aviators—641 CT coronary angiography screening—812 flowchart for systemic lupus erythematosus—826 Altitude effects acute pulmonary edema in healthy subjects—662 hyperparathyroidism in Air Force loadmaster—59 decompression sickness risk markers-11, 455 (Letter) migraine in military pilot applicants—37 high-altitude decompression sickness therapy—106 olfactory meningioma in commercial pilot-966 measuring transient cognitive impairments during acute presbycusis in pilots—403 hypoxia-839 Raynaud's phenomenon/hand-arm vibration syndrome—459 psychophysiological response of pilots—785 rhabodmyolysis-901 respiratory muscle training impact on cycling at altitude-776 selective serotonin reuptake inhibitor use by aviators-897 serious illness at South Pole—46 spontaneous pneumothorax in pilot—116 voice reactivity in acute hypobaric hypoxia—471 spontaneous vitreous hemorrhage in naval aviator—904 Ambient pressure, in acute pulmonary edema in healthy total ankle replacement in military jet pilot-597 subjects-662 tularemia in an aviator-379 Ankle injuries, total ankle replacement in military jet pilot—597 Aeromedical transport Antarctica, serious altitude illness cases in-46 as niche for aerospace medicine-311 transport times with helicopter VFR and IFR vs. ground—98 Anthropometric analysis cross-cultural, in military aviation—358 Aerospace Medical Association (AsMA) in screening for cockpit compatibility-725 91st Annual Scientific Meeting Program and Abstracts—121 Antihistamines, drug use reported by U.S. pilots—388 bylaws of-301 Antioxidant capacity, survival training effects on—720 Fellowships in-63 mid-term report—837 Expedition App for Peak Psychological Performance—876, E2(Nov) News-466, 752 medication dose tracker app for astronauts-41 past presidents-295 President's Page—2, 63, 121, 385, 469, 541, 619, 687, 765, 837, 909 Artificial intelligence robots to provide care for coronavirus patients—611 Aerospace medicine role in space healthcare—537 aeromedical transport as niche for—311 Astronauts-See also Spaceflight creating a medical student curriculum in-448 autonomous psychological support for isolation—876, E2(Nov) Aerospace Medicine and Human Performance bioprinting and biofabrication to support health of-457 Foundation, donations to—2 cognition test and spacecraft docking performance—861, E1(Nov) new challenges-1 open access option-1 dynamic posturography after long-duration spaceflight—621 female, potential venous thromboembolism risk in—432 readership survey results on bi-monthly publication—608 medical risk quantification tool for-41 Affective cognition, human performance in long-term space medication dose tracker app for-41 missions-532 microgravity and muscle function after missions-422 Age effects motion sickness in Chinese college students—71 ocular "glymphatic" system in optic disc edema—975 on NASA's Cognition Test Battery—18, E1(Jan) Atrial fibrillation, stroke risk in pilots with—352 Attention, in simulated flight with varying cognitive loads—489 Air combat maneuvering, cervical EMG in—26 Audiometry, changes under hypobaric hypoxia—32 Air traffic controllers hs-CRP impact on cardiovascular risk in-886 Automation, at aerial ports, musculoskeletal injuries and—669 systemic lupus erythematosus case in—826 Autonomic dysfunction, vitamin B12 deficiency related in military Air travel—See Travel, air and Commercial airline passengers pilot—746

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.

Autopilot mode, pilots' visual scanning behaviors during intraocular lead foreign body injury after ejection—674 landing-511 migraine prophylaxis in commercial pilot-824 Aviation, civil—See Civil aviation olfactory meningioma in commercial pilot-966 Aviation, general—See General aviation post-spaceflight rash and skin sensitivity-604 rehabilitation of chronic flight-related neck pain—369 Aviators—See Aircrew and Pilots Avionics, accident rates in general aviation-387 rhabdomyolysis in civil aviation pilot-901 total ankle replacement in military jet pilot-597 vitamin B12 deficiency related syncope—746 Cataracts, from atmospheric nuclear tests—56 Back pain, low, in commercial airline pilots-940 Cephalic fluid shifts, thigh cuff effects on in dry immersion—697 Ballistic Chute system, acceptance of usage—86 Cervical kinematics, for neck pain in pilots—790 Behavioral intervention, for fatigue management, effects on flight Chest compressions, supplemental O2 for rescuers in commercial attendants-911 aircraft cabin—918, E1(Dec) Biocontainment units, on commercial aircraft—611 Chimpanzees, in Project Mercury—462 Biofabrication, in support of aerospace missions—457 Cholinesterase inhibition, exposure in aircraft maintenance Biomarkers, of fatigue during survival training—720 workers-710 Bioprinting, in support of aerospace missions—457 Circadian misalignment, PVT agreement between devices-409 Bithermal caloric tests, for seasickness-852 Circadian typology, aircrew fatigue perceptions and mitigation Body composition, differences in military pilots and aircrew—565 strategies—363 Bone loss, urinary calcium measures for tracking in space—689 Cirrus Aircraft, advanced avionics impact on accident rates—387 Bone mineral density, in women, considerations for long-duration Civil Aerospace Medical Institute—541 spaceflight-543 Civil aviation pilots—See also Pilots Boyle's Law, spontaneous pneumothorax in a fighter pilot—116 emotional conflict control in-798 Brain tumors, olfactory meningioma in commercial pilot—966 rhabodmyolysis in-901 CNS tumors, olfactory meningioma in commercial pilot—966 \mathbf{C} Cockpit ergonomics, cervical EMG in air combat maneuvering—26 Cockpit fit, aviator anthropometric screening for cockpit Cabin, aircraft decompression sickness treatment using pressure suit—571 compatibility-725 Cognition Test Battery, reliability of—18, E1(Jan) impact of human microbiome on—651 Cognitive impairment pressurization and non-arteritic anterior ischemic optic during acute normobaric hypoxia vs. hypobaric hypoxia—845 neuropathy-715 measuring transient impairments during acute hypoxia-839 Caffeine, consumption by U.S. Army personnel—641 olfactory meningioma in commercial pilot-966 Calcitonin gene-related peptide (CGRP), monoclonal antibody over-pressurization episodes in E-2D Hawkeye aircrew—970 injections for migraine prophylaxis-824 Cognitive load, effect on pilots' visual search strategies—489 Calcium, urinary, for tracking bone loss and kidney stone risk in Cognitive performance space-689 Carbon dioxide, inspired CO₂ exposure levels in extravehicular affective cognition approach in space—532 relationship with the microbiome-651 mobility unit—923, E2(Dec) Cold-water immersion Cardiac arrest, supplemental O2 for rescuers doing CPR in commercial aircraft cabin—918, E1(Dec) helicopter transport suit for-578 skin cooling and breath-hold duration during-578 Cardiac drugs, use reported by U.S. pilots—388 Cardiac output, in acute pulmonary edema in healthy subjects-662 College students, motion sickness predictors in Chinese—71 Color vision, shifts with hypoxia—394 Cardiac transplantation, selective recertification of pilots after—732 Commercial airline aircrew fatigue management intervention for flight attendants-911 recertification of pilots after cardiac transplantation—732 screening with CT coronary angiography—812 large-scale EU study of fatigue in—628 stroke risk in pilots with atrial fibrillation—352 measures to prevent infectious disease in-416 Commercial airline passengers wearable EGC electrode model for long-duration spaceflight—868 comfort of seats during long flights-416 Cardiopulmonary resuscitation, supplemental O2 for rescuers in ground-based care for in-flight medical emergencies—348 commercial aircraft cabin—918, E1(Dec) Cardiovascular risk factors, impact of hs-CRP level in pilots and air measures to prevent infectious disease in-416 traffic controllers-886 risk of non-arteritic anterior ischemic optic neuropathy—713 Commercial airline pilots Cardiovascular system awareness of flight-associated venous thromboembolism—343 responses after long-duration spaceflight-621 in-flight UV-A exposure-501 screening with CT coronary angiography—812 large-scale EU study of fatigue in-628 Career development, creating aerospace medicine curriculum—448 low back pain in—940 Carpal tunnel syndrome, with Raynaud's phenomenon and hand-arm migraine prophylaxis in—824 vibration syndrome—459 olfactory meningioma in-966 Case reports Commercial airlines, predeparture screening for coronavirus—909 aircrew symptoms from over-pressure episode—970 Commuter flights, spatial disorientation in transport airplanes—65 airplane headache during flight-373 Compartment syndrome—461 altitude illness at South Pole-46 Conner's Continuous Performance test-839 disposition flowchart for systemic lupus erythematosus—826 Contraceptives facial nerve palsy during airplane travel-679

gynecologic risk mitigation for long-duration spaceflight—543

oral, venous thromboembolism risk in female astronauts-432

Coriolis illusion, impact on precise approach in simulated flight—767

G-LOC from push-pull effect—51

hypoxic skydiving-110

high-altitude decompression sickness therapy—106

Coronary artery disease, screening with CT coronary angiography—812

Coronavirus pandemic

aeromedical research and -765

impact on aviation and aerospace industries—469 improving airline passenger and personnel safety—611

pre-departure screening for—909

Corticosteroids, systemic, for upper respiratory tract infections in aviators—453

Cosmonauts—See also Astronauts

microgravity and muscle function after missions—422

Crashes—See Accidents, aviation

Crashworthiness, reducing accidents in general aviation—387

Creatine kinase activity, survival training effects on—720

Critical care transport, ground vs. helicopter VFR and IFR times—98

CT coronary angiography, coronary artery disease screening with—812

Culture, cross-cultural anthropometrics in military aircrew—358 Curriculum, for aerospace medicine—448

D

Data collection, medication dose tracker app for spaceflight—41 Decompression sickness

recompression therapy for high altitude—106

treatment after loss of spacecraft atmosphere—571

venous gas emboli as risk marker—11, 455 (Letter)

Depression, autonomous psychological support for isolation—876, E2(Nov)

Dermatology, post-spaceflight rash and skin sensitivity—604

Dinitrogen tetroxide (N₂O₄), propellant off-gassing and emergency egress during space launch—956

Diphenhydramine, use reported by U.S. pilots—388

Disinfectant wheels, to combat viruses—611

Diving accidents, helicopter evacuations in immersion pulmonary edema-806

Docking, spacecraft, cognition test performance and—861, E1(Nov)

Drones, and adaptive tasks to measure impact of stress—376

Drowning, skin cooling effect on breath-hold duration—578

Drugs—See Medications and individual drug names

Dry immersion, thigh cuff effects on venous flow—697

Duty Not Including Flying (DNIF) time, systemic corticosteroids for aviators with URTIs—453

Dynamic posturography, responses after long-duration spaceflight—621

Dynamic stabilization task, using machine learning—479, E1(June)

\mathbf{E}

E-2D Hawkeye aircraft, over-pressurization episodes in aircrew—970

Earplugs, custom, faster delivery to troops—749

Education, creating an aerospace medicine curriculum—448 Egress, emergency

helicopter emergency breathing apparatus—962

during space launch, propellant off-gassing implications—956

Ejection injuries, intraocular lead foreign body—674

Electrocardiography (ECG), wearable electrode placement—866 Electromyography (EMG), cervical, in air combat maneuvering—26

Emergencies, in-flight

ground-based medical services for—348

supplemental O_2 for rescuers doing CPR chest compressions—918, E1(Dec)

Emotion, affective cognition and human performance in space—532 Emotional conflict control, neural underpinnings of in pilots—798 Endometriosis, considerations for long-duration spaceflight—543 Endurance training, effect on performance in hypobaric hypoxia—776 Energy drinks, consumption by U.S. Army personnel—641

Ergonomics, of aircraft seats and passenger comfort—416 Errata—456, 684

Ethics, artificial intelligence in space health care—537

European Union, aircrew fatigue in-628

Eustachian tube dysfunction, facial baroparesis during airplane travel—679

Evacuation, medical risk quantification on International Space Station—332

Executive function, measuring transient impairments during acute hypoxia—839

Exercise

acute pulmonary edema in healthy subjects—662 excessive, rhabodmyolysis due to—901

Expedition-APPP, autonomous psychological support for isolation—876, E2(Nov)

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

Extracorporeal oxygenation therapy, for high-altitude decompression sickness—106

Extravehicular mobility unit, partial pressure of inspired CO₂ exposure levels in—923, E2(Dec)

Extreme environments

in acute pulmonary edema in healthy subjects—662 serious altitude illness cases at the South Pole—46

Eye movements

cognitive load and pilots' visual search strategies—489 during instrument landing system approach—511 vestibulo-ocular responses in aerobatic pilots—326

F

Facial baroparesis, reversible peripheral nerve palsy during airplane travel—679

Fat free mass, predicting peak oxygen consumption—102 Fatalities

G-LOC due to push-pull effect in F-16 mishap—41

medical risk quantification on International Space Station—332 Fatigue

of aircrew in the EU—628

aircrew perceptions and circadian typology-363

aviation mishaps related to-440

caffeine and energy drink use by military aviators—641 management intervention effects on flight attendants—911 modeling performance. 518

modafinil and aircraft carrier landing performance—518

Federal Aviation Administration (FAA)

Civil Aerospace Medical Institute—541

drug use reported by U.S. pilots to-586

Fertility, considerations for long-duration spaceflight—543

Fighter pilots—See also Military pilots

cervical EMG in air combat maneuvering—26

decompression sickness risk markers-11, 455 (Letter)

G-LOC due to push-pull effect in F-16—51

self-kinematic training for flight-associated neck pain—790

shifts in color vision with hypoxia-394

verbal reports and flight performance under spatial disorientation—948

Fitness, caffeine and energy drink use by military aviators—641 Fitness to fly—See Safety, aviation; Aeromedical disposition; and Waivers

Flight attendants, fatigue management intervention effects on—911 Flight duty periods, aircrew fatigue in the EU—628

Flight illusions, impact on precise approach in simulated flight—767 Flight safety—See Safety, aviation

Fremanezumab, for migraine prophylaxis in pilot—824 Functional imaging

fMRI and emotional conflict control in pilots—798 near-infrared spectroscopy—833

G	Hoist operation, helicopter, operator performance on
$+G_z$ forces	simulator—496, E2(June)
cervical EMG in air combat maneuvering—26	hs-CRP level, cardiovascular risk in pilots and air traffic controllers—886
loss of consciousness due to push-pull effect—51	Human factors, aviator anthropometric screening for cockpit
Gas bubble formation, as marker for altitude decompression sickness—11, 455 (Letter)	compatibility—725
Gender differences	Human microbiome, aviation and—651
fat free pass predicts peak O ₂ consumption—102	Human performance—See also Cognitive performance
motion sickness in Chinese college students—71	accident rates in general aviation—387
on NASA's Cognition Test Battery—18, E1(Jan)	affective cognition approach in space—532
General aviation	cognitive load effect on pilots' visual search strategies—489 modafinil and aircraft carrier landing performance—518
accident rates, causes, and injuries in—387	pilot workload assessment—932
interpretability of weather information displays for—318	prediction of using machine learning—479, E1(June)
Genetic predisposition, acute pulmonary edema in healthy subjects—662	psychophysiological responses of pilots in hypoxia training—785
Genetic testing, of pilot applicants—535 (Letter)	respiratory muscle training and cycling at altitude—776
Glymphatic system, in optic disc edema in astronauts—975	shooting ability in motion sickness simulation—703
Ground-based medical services, for in-flight emergencies—348	skydiving with mild hypoxia—110
Gynecology, risk mitigation for long-duration spaceflight—543	stress, cognition, drones, and adaptive tasks—376 verbal reports effect in spatial disorientation—948
	Human Systems Engineering Dept., of Naval Warfare Center
	Aircraft Division—837
Н	Hyperbaric oxygenation, for high-altitude decompression
Habituation, to airsickness after scopolamine treatment—313	sickness—106
Hand-arm vibration syndrome—459	Hypercalcemia, hyperparathyroidism in a loadmaster—59
Head movements, cervical EMG during air combat	Hyperparathyroidism, in an Air Force loadmaster—59
maneuvering—26 Headaches	Hypobaria, cognitive impairment in acute normobaric hypoxia vs. hypobaric hypoxia—845
airplane, during flight—373	Hypobaric decompression sickness, treatment using pressure
migraine in military pilot applicants—37	suit—571
migraine prophylaxis in commercial pilot—824	Hypobaric hypoxia
Health, relationship with the microbiome—651	endurance and resistance respiratory muscle training in—776
Health education, on fatigue management for flight attendants—911	pure tone audiometry in—32
Health care	voice reactivity as marker for acute—471 Hypothenar hammer syndrome—459
in space, bioprinting and biofabrication in—457 in space, role of artificial intelligence—537	Hypoxia
Hearing loss	acute pulmonary edema in healthy subjects—662
faster delivery of custom earplugs to troops—749	audiometric changes under hypobaric—32
fitness to fly with presbycusis—403	cognitive impairment in acute normobaric hypoxia vs. hypobaric
Heart rate variability, verbal reports and pilot flight performance	hypoxia—845
under spatial disorientation—940	color vision shifts with—394
Helicopter emergency medical services (HEMS), transport times VFR and IFR vs. ground—98	measuring cognitive function impairment during acute—839 skydiving with—110
Helicopter pilots, rehabilitation of chronic flight-related neck	supplemental O ₂ for rescuers doing CPR in commercial aircraf
pain—369	cabin—918, E1(Dec)
Helicopter transport suit, for cold-water immersion—579	Hypoxia training, pilots' psychophysiological responses—785
Helicopter underwater egress breathing apparatus, effect on egress	
performance—962	I
Helicopters	
in diving accident evacuations—806 helicopter emergency breathing apparatus and emergency	Imaging fMRI and emotional conflict control in pilots—798
egress—962	remotely guided ultrasound examinations—592
performance of hoist operators—496, E2(June)	Immersion
skin cooling and breath-hold duration in cold-water crashes—578	acute pulmonary edema in healthy subjects-662
underwater escape training—962	dry, thigh cuff effects on venous flow—697
High-altitude cerebral edema (HACE), at the South Pole—46	pulmonary edema in diving accidents with helicopter
High-altitude decompression sickness (HADCS), hyperbaric therapy and extracorporeal oxygenation for—106	evacuation—806
High-altitude pulmonary edema (HAPE)	In-flight emergencies ground-based medical services for—348
in healthy subjects—662	supplemental O ₂ for rescuers doing CPR chest compressions—918
at the South Pole—46	E1(Dec)
History	Indomethacin, for airplane headache—373
Focus on Aerospace Medicine History—462	Infectious diseases
life of Don Shields—56	improving airline passenger and crew safety—611
Project Mercury—462 This Month in Aerospace Medicine History—62, 119, 382, 383,	tularemia in an aviator—379 Information displays weather for general aviation—318
465, 540, 615, 685, 751, 836, 908	Information displays, weather, for general aviation—318 Infrared thermometer guns, at airports—611
· · ·	U ' 1

Inspired carbon dioxide, exposure levels in extravehicular mobility unit—923, E2(Dec)

Instrument flight rules (IFR), helicopter critical care transport times vs. VFR and ground—98

Integrated Medical Model, medical risk quantification on ISS—332 International Space Station

isokinetic force and work capacity after—422 medication dose tracker app for crew—41 quantification of medical risk on—332

rash and skin sensitivity after year-long mission—604

Intracranial pressure, glymphatic system in optic disc edema in astronauts—975

Intraocular injuries, lead foreign body after ejection from aircraft—674

Isokinetic dynamometry, muscle function and microgravity—422 Isolated and confined environments—See also Extreme

environments and Spaceflight

autonomous psychological support for—876, E2(Nov)

Israeli Air Force, self-kinematic training for neck pain in pilots—790

Italian Air Force, total ankle replacement in military jet pilot—597

J

Joint Helmet Mounted Cueing System, in air combat maneuvering—26

K

Kidney stones, urinary calcium measures for tracking in space—689 Kinematic training, for neck pain in pilots—790 Kratom—978

I

Launch, spacecraft, propellant off-gassing implications—956 Lead, intraocular foreign body injury after ejection—674 Lemon-squeezer's hand—459

Leukemia, from atmospheric nuclear tests—56

Lingual gyrus, emotional conflict control in pilots—798

Lipid hydroperoxides, survival training effects on—720

Logistics, faster delivery of custom earplugs to troops—749

Long-duration space missions

affective cognition and human performance on—532

gynecologic risk mitigation for—543

isokinetic force and work capacity after-422

postflight rash and skin sensitivity-604

vestibular and cardiovascular responses after-621

wearable ECG electrode placement model for—866

Long-haul flights, pilot awareness of venous thromboembolism on -343

Loss of consciousness, $G+_{z}$ - induced, push-pull effect in fatal F-16 mishap—51

Loss of control, spatial disorientation in transport airplanes—65 Low back pain, in commercial airline pilots—940

Lower body compression garments, new dynamic countermeasure fabrics for—525

N

Machine learning, predicting human performance using—479, E1(June)

Magnetic resonance imaging, functional, and emotional conflict control in pilots—798

Magnetic stimulation, transcranial, in aeromedical research—682 Mars Mental Health Model—737, E1(Sept)

Mars missions, mental health technology transfer between Earth and space—737, E1(Sept)

Masks, to prevent virus transmission among airline passengers—611

Medical certification—*See also* Aeromedical disposition drug use reported by U.S. pilots—586 of pilots after cardiac transplantation—732

Medical evacuation, by helicopter in diving accidents—806 Medical risk, quantification tool on International Space Station—332

Medical school, creating an aerospace medicine curriculum—448 Medications

dose tracker app for astronauts—41

drug use reported by U.S. pilots—586

indomethacin for airplane headache—373

monoclonal antibody injections for migraine prophylaxis—824 scopolamine treatment and adaptation to airsickness—313 selective serotonin reuptake inhibitor use by Army aviators—897 systemic corticosteroids for URIs in aviators—453

Mental health

autonomous psychological support for isolation—876 selective serotonin reuptake inhibitor use by Army aviators—897 technology utilization both on Earth and in space—373, E1(Sept)

Mental stress, verbal reports effect on pilot performance in spatial disorientation—948

Microbiome, aviation and-651

Microgravity

affective cognition and human performance in—532 bioprinting and biofabrication in—457

docking and cognition test battery performance—861, E1(Nov) dynamic posturography after long-duration spaceflight—621

muscle function after space missions—422

ocular "glymphatic" system in optic disc edema in astronauts—975 thigh cuffs reduce venous flow in dry immersion—697

Migraine

in military pilot applicants—37 prophylaxis in commercial pilot—824

Military aircrew

CT coronary angiography screening—812

body composition differences in—565

caffeine and energy drink use in-641

cross-cultural anthropometric analysis in—358

fatigue-related aviation mishaps—440

hyperparathyroidism in loadmaster—59

over-pressurization episodes in E-2D Hawkeye aircrew—970 Military personnel

musculoskeletal injuries and automation at aerial ports—669 survival training effects on oxidative stress—720

Military pilots—See also Fighter pilots

anthropometric screening for cockpit compatibility—725

Asian, simulator sickness time course—892

body composition differences in-565

caffeine and energy drink use in-641

cognitive impairment in hypobaric normoxia—845

cognitive load and visual search strategies—489

lead intraocular foreign body injury after ejection—674

migraine history in applicants—37

psychophysiological responses in hypoxia training—785

spontaneous pneumothorax in—116

spontaneous vitreous hemorrhage in—904

survey of spatial disorientation in—4

total ankle replacement in-597

vitamin B12 deficiency related syncope—746

Mir space station, microgravity and muscle function after mission—422

Mishaps—See Accidents, aviation

Modafinil, aircraft carrier landing performance after use of—518 Monoclonal antibodies, to CGRP for migraine prophylaxis—824

Monomethyl hydrazine, propellant off-gassing and emergency egress during space launch—956

Mortality—See Fatalities

Motion sickness

limitations of vestibular tests for seasickness—852 predictors in Chinese college students-71 scopolamine treatment and adaptation to airsickness—313 shooting performance in model of -703in simulator, time course in Asian military pilots—892

vestibulo-ocular responses in aerobatic pilots—326

Muscle damage biomarkers, survival training effects on in naval cadets-720

Muscle fatigue, aircraft seat ergonomics and passenger comfort-416

Muscle function, after long and short space missions-422 Musculoskeletal injuries, and automation in aerial ports—669

N

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

Integrated Medical Model for risk quantification—332 propellant off-gassing and emergency egress system-956 reliability of Cognition Test Battery—18, E1(Jan)

Naval Warfare Center Aircraft Division, Human Systems Engineering Dept. of-837

Near-infrared spectroscopy

functional, in aerospace environment-833

measuring cognitive function impairment during acute hypoxia-839

Neck pain

rehabilitation of chronic flight-related—369

self-kinematic training for flight-associated—790

Neural responses, emotional conflict control in pilots—798

Neurocognition, reliability of Cognition Test Battery—18, E1(Jan) Neurology

airplane headaches—373

fMRI and emotional conflict control in pilots—798 over-pressurization episodes in E-2D Hawkeye aircrew—970 stroke risk in pilots with atrial fibrillation—352 vitamin B12 deficiency related syncope—746

Neurostimulation, transcranial magnetic stimulation in aeromedical research-682

Neurotrophic drugs, use reported by U.S. pilots—388 Night-time flight duty, aircrew fatigue in the E.U. —628

Non-arteritic anterior ischemic optic neuropathy, aircraft cabin pressurization and -715

Nuclear weapons testing, life of Don Shields—58

O

Occupational exposure

exposure to organophosphate esters in aircraft maintenance workers-710

in-flight UV-A exposure of commercial airline pilots—501 propellants off-gassing during space launch—956

Occupational injuries

low back pain in commercial airline pilots—940 musculoskeletal, at aerial ports-669

Ocular pathologies, in-flight UV-A exposure of commercial airline

Olfactory meningioma, in commercial pilot—966

Oman, Royal Air Force of, across-cultural anthropometric analysis in-358

Ophthalmology

lead intraocular foreign body injury after ejection—674 non-arteritic anterior ischemic optic neuropathy-715 ocular "glymphatic" system in optic disc edema in astronauts-975 optic nerve tortuosity on Earth and in space—91 spontaneous vitreous hemorrhage in naval aviator-904

Optic disc edema, ocular "glymphatic" system in astronauts—975

Optic nerve tortuosity, on Earth and in space—91

Organophosphate esters, exposure in aircraft maintenance workers-710

Orthopedics, total ankle replacement in military jet pilot—597

Orthostasis, responses after long-duration spaceflight—621

Orthostatic intolerance garments, dynamic countermeasure fabrics

Otolaryngology, presbycusis and fitness to fly-403

Otoliths, vestibulo-ocular responses in aerobatic pilots—326

Ovarian cysts, considerations for long-duration spaceflight—543

Over-pressurization episode, in multiple E-2D Hawkeye aircrew-970

Oxidative stress, survival training effects on in naval cadets, 720 Oxygen

peak consumption, prediction using whole body fat free mass-102

supplemental, for rescuers doing CPR in commercial aircraft cabin—918, E1(Dec)

Parachute systems, acceptance of ballistic Chute usage—86 Parachuting, skydiving with mild hypoxia—110

Paroxismal hemicrania, airplane headache similar to—373

Passengers, airline

care for in-flight medical emergencies-348

impact of microbiome on-651

reversible facial baroparesis during—679

Penn Computerized Neurocognitive Battery, reliability of—18, E1(Jan)

Performance—See Cognitive performance and Human performance Pharmacology, dose tracker app for International Space Station

Pharyngitis, systemic corticosteroids use in aviators—453

Physical exercise, acute pulmonary edema in healthy subjects—662 Physical fitness—See also Human performance

summer break effect on ROTC cadets-818

Physiologic events, over-pressurization episodes in E-2D Hawkeye aircrew-970

Pilots-See also Aircrew, Commercial airline pilots, Helicopter pilots, and Military pilots

with atrial fibrillation, stroke risk in—352

awareness of flight-associated venous thromboembolism—343

cognitive load and visual search strategies-489

drug use reported by-586

emotional conflict control in—798

genetic testing of applicants—535 (Letter)

hs-CRP impact on cardiovascular risk in-886

in-flight UV-A exposure—501

multidimensional method for workload assessment—932

vestibulo-ocular responses in aerobatic pilots—326

visual scanning behaviors during landing-511

Pleurodesis, for spontaneous pneumothorax in a fighter pilot—116

Pneumothorax, spontaneous, in a fighter pilot—116

Point-of-care ultrasound exams, remotely guided-592

Ports, aerial, musculoskeletal injuries and automation at—669

Postural instability, shooting performance in simulated motion sickness—703

Posturography, responses after long-duration spaceflight—621 Pregnancy, considerations for long-duration spaceflight—543

Presbycusis, fitness to fly with-403

Prescriptions, in-flight, by ground-based medical services—348

Pressure suit, after loss of spacecraft atmosphere—571

Project Mercury, chimpanzees in-462

Propellants, off-gassing during space launch—956

Psychiatry, mental health technology utilization on Earth and in space—373, E1(Sept)

Psychological support Risk mitigation, gynecologic, for long-duration spaceflight—543 autonomous, for isolation and confinement—876, E2(Nov) Rotary-wing aircraft mental health technology utilization on Earth and in space—373, rehabilitation of chronic flight-related neck pain—368 spatial disorientation in military pilots-4 Psychological wellbeing, relationship with microbiome—651 Royal Netherlands Air Force, using new reference values in Psychomotor responses, of pilots in hypoxia training—785 spirometry assessments-636 Psychomotor Vigilance Task (PVT) data, agreement between Russian "Braslets" thigh cuffs, effects on venous flow-697 devices-409 Psychotropic drugs, use reported by U.S. pilots—388 S Public health, improving airline passenger and personnel safety amid pandemic-611 Safety, aviation Pulmonary edema acceptance of use of ballistic Chute systems-86 acute, in healthy subjects—662 aircrew fatigue in the EU-628 diving accident evacuations by helicopter—806 aircrew fatigue perceptions and mitigation strategies—363 Pulmonary function tests, using new reference values in anthropometric screening for cockpit compatibility—725 spirometrydrug use reported by U.S. pilots-586 Pulmonology in high-performance general aviation aircraft—387 acute pulmonary edema in healthy subjects—662 human microbiome and-651 spontaneous pneumothorax in a fighter pilot—116 impact of flight illusions on precise approach—767 Pure tone audiometry, in hypobaric hypoxia—32 improving airline passenger and personnel safety-611 Push-pull effect, in fatal F-16 mishap—51 pilot awareness of venous thromboembolism—343 recertification of pilots after cardiac transplantation-732 spatial disorientation in military pilots—4 Quantified risk tool, medical, for International Space Station—332 spatial disorientation in transport planes—65 stroke risk in pilots with atrial fibrillation—352 time course of simulator sickness in military pilots—892 using new spirometry reference values—636 Radiation exposure, historical note on Don Shields-56 Randomized controlled trials, self-kinematic training for neck pain Science and Technology Watch artificial intelligence in space healthcare—537 bioprinting and biofabrication for space missions-457 Rash, after year-long spaceflight mission—604 Raynaud's phenomenon—459 faster delivery of custom earplugs to troops-749 functional near-infrared spectroscopy-833 Recruitment, cross-cultural anthropometrics in military aircrew—358 Reference values, impact of use in spirometry-636 improving airline passenger and personnel safety-611 Refueling, in-air, venous gas emboli at varied altitudes—11, 455 kratom-978 (Letter) stress, cognition, drones, and adaptive tasks-376 transcranial magnetic stimulation—682 Rehabilitation, of chronic flight-related neck pain—369 Remote environments—See also Extreme environments Scopolamine, and adaptation to airsickness—313 remotely guided ultrasound examinations in-592 Scuba diving, accident evacuations by helicopter—806 Search and rescue, helicopter hoist performance—496, E2(June) serious altitude illness cases at South Pole—46 Remotely piloted aircraft, fatigue-related mishaps—440 Seasickness limitations of vestibular tests for-852 Reproductive health, gynecologic risk mitigation for long-duration predictors in Chinese college students-71 spaceflight-543 Republic of Singapore Air Force, time course of simulator sickness shooting performance in model of-703 Seats, aircraft, ergonomics and passenger comfort—416 in pilots—892 Research, aeromedical Selective serotonin reuptake inhibitors, use among Army 711th Human Performance Wing-765 aviators-897 aviation and the microbiome-651 Shape memory alloys, for orthostatic intolerance garments—525 Shields, Don-56 Civil Aerospace Medical Institute—541 COVID-19 and -765 Shooting ability, in motion sickness simulation—703 Simulated flight Human Systems Engineering Dept. of Naval Warfare Center Aircraft Division—837 cognitive load and visual search strategies-489 Sleep/Wake Research Centre at Massey University—687 helicopter hoist performance—496, E2(June) pilot workload assessment—932 transcranial magnetic stimulation for use in-682 spatial disorientation impact on precise approach in—767 U.S. Army Aeromedical Research Laboratory—619 Reserve Officers' Training Corps (ROTC), summer break effects on spatial disorientation in military pilots—4 Simulated spaceflight—See also Spaceflight cadet physical performance-818 cognition test and docking performance—861, E1(Nov) Resistance training, effect on performance in hypobaric hypoxia—776 dynamic stabilization task—479, E1(June) Respiratory disorders, systemic corticosteroids for URTI in thigh cuffs reduce venous flow in dry immersion—697 aviators-453 Simulator sickness Respiratory muscle training, effect on performance in hypobaric hypoxia-776 shooting performance with-703 Rhabdomyolysis, in civil aviation pilot-901 time course in Asian military pilots—892 Sinusitis, systemic corticosteroids use in aviators—453 Risk assessment for altitude decompression sickness in pilots—11, 455 (Letter) Situational awareness cognitive load and pilots' visual search strategies-489 impact of hs-CRP on cardiovascular risk factors-886 in-flight UV-A exposure of commercial airline pilots—501 reducing accidents in general aviation—387 medical, quantification on International Space Station—332 Skilled motor learning, dynamic stabilization task—479, E1(June)

Skin cancers, in-flight UV-A exposure of commercial airline pilots—501	Submersion skin cooling and breath-hold duration—578
Skin sensitivity, after year-long spaceflight mission—604 Skydiving, with mild hypoxia—110	underwater emergency breathing apparatus, cold-water breath- hold duration—578
Sleep, caffeine and energy drink use by military aviators—641	underwater escape training, helicopter emergency breathing
Sleep deprivation	apparatus and emergency egress—962
aircrew fatigue in the EU—628	Supplements, caffeine and energy drink use by military aviators—641
PVT agreement between devices—409 Slean (Walto Passarch Control of Massay University 687)	Supramarginal gyrus, emotional conflict control in pilots—798
Sleep/Wake Research Centre at Massey University—687 Software, medication dose tracker app for astronauts—41	Surgery, total ankle replacement in military jet pilot—597 Survival training— <i>See also</i> Training
Soldiers—See Military personnel	effects on oxidative stress and muscle damage biomarkers—720
Somatogravic illusions, spatial disorientation in transport	Swimming-induced pulmonary edema, in healthy subjects—662
planes—65	Syncope, vitamin B12 deficiency related in military pilot—746
Somatogyral illusion, impact on precise approach in simulated flight—767	Systemic lupus erythematosus, aeromedical disposition flowchart for—826
South Pole, serious altitude illness cases in—46	
Space medicine—See Spaceflight	T
Spacecraft docking performance, cognition test battery performance	Tactical aircraft, modafinil and aircraft carrier landing
and—861, E1(Nov)	performance—518
Spaceflight artificial intelligence in space health care—537	Talus expulsion, total ankle replacement in military jet pilot—597
bioprinting and biofabrication in support of—457	Technical notes
docking and cognition test battery performance—861, E1(Nov)	new fabrics for orthostatic intolerance garments—525
dynamic posturography after long-duration—621	Technology—See also Science and Technology Watch
gynecologic risk mitigation for long-duration—543	in mental health, utilization both on Earth and in space—373, E1(Sept)
inspired CO_2 exposure levels in extravehicular mobility unit—923,	Teleconsultation, for in-flight emergencies—348
E2(Dec) isokinetic force and work capacity after—422	Test-retest reliability, on NASA's Cognition Test Battery—18,
medical risk quantification tool—332	E1(Jan)
medication dose tracker app for—41	Thermal scanners, at airports—611
mental health tech transfer between Earth and space-737,	Thigh cuffs, effects on venous flow in dry immersion—697 Thrombosis
E1(Sept)	pilot awareness of VTE—343
new fabrics for orthostatic intolerance garments—525	potential VTE risk in female astronauts—432
ocular "glymphatic" system in optic disc edema in astronauts—975	Total ankle replacement, in military jet pilot—597
optic nerve tortuosity—91 propellant off-gassing during launch—956	Toxicology, post-accident testing to determine pilot drug use—586
rash and skin sensitivity after year-long mission—604	Training
reliability of Cognition Test Battery—18, E1(Jan)	device for rehabilitation of chronic flight-related neck pain—369
urinary calcium measures in—689	endurance and resistance respiratory muscle training—776 fat free pass predicts peak O_2 consumption—102
venous thromboembolism risk in female astronauts—432	helicopter emergency breathing apparatus for underwater
vestibular and cardiovascular responses after—621	escape—962
wearable ECG electrode placement model—866 Spaceflight associated neuro-ocular syndrome (SANS)—91	psychophysiological responses of pilots at altitude—785
Spacesuits	self-kinematic, for flight-associated neck pain—790
inspired CO ₂ exposure levels in—923, E2(Dec)	spatial disorientation in military pilots—4
propellant off-gassing implications for emergency egress—956	survival, effects on oxidative stress and muscle damage biomarkers—720
Spanish Armed Forces, body composition differences in pilots and	Transcranial magnetic stimulation, use in aeromedical research—682
aircrew—565 Spatial disorientation	Transport airplanes, mishaps due to spatial disorientation—65
dynamic stabilization task using machine learning—479, E1(June)	Transport time, with helicopter VFR vs. IFR vs. ground—98
impact on precise approach in simulated flight—767	Transport, aeromedical
reducing accidents in general aviation due to—387	as niche for aerospace medicine—311
survey among military pilots—4	transport times with helicopter VFR and IFR vs. ground—98
in transport airplanes—65	Travel, air aviation and the microbiome—651
verbal reports effect on flight performance under—948	facial baroparesis during—679
Special issuance medical certification	non-arteritic anterior ischemic optic neuropathy—715
drug use reported by U.S. pilots—586 for pilots after cardiac transplantation—732	supplemental O ₂ for rescuers giving CPR in-flight, 918—E1(Dec)
Speech audiometry in noise, presbycusis and fitness to fly—403	Tularemia, in an aviator—379
Spirometry, using new reference values in aeromedical	**
assessments—636	U
Stalls, aerodynamic, reducing accidents in general aviation due to—387	U.S. Air Force—See also Military pilots
Standing, dynamic posturography after long-duration	711th Human Performance Wing—765
spaceflight—621	aircrew fatigue perceptions and circadian typology—363

fatigue-related aviation mishaps—440

musculoskeletal injuries and automation at aerial ports-669

summer break effect on ROTC cadets' physical performance—818

Stress, drones and adaptive tasks to measure impact of—376

Stroke, risk of recurrent, in pilots with atrial fibrillation—352

Stroop task, emotional conflict control in pilots—798

U.S. Army—See also Military pilots
Aeromedical Research Laboratory—619
anthropometric screening for cockpit compatibility—725
caffeine and energy drink use in aviation personnel—641
selective serotonin reuptake inhibitor use by aviators—897

U.S. Navy—See also Military pilots modafinil and aircraft carrier landing performance—518 research at Human Systems Engineering Dept.—837

Ultrasound, remotely guided examinations—592

Ultraviolet radiation, in-flight UV-A exposure of commercial airline pilots—501

Underwater emergency breathing apparatus, cold-water breath-hold duration—578

Underwater escape training, helicopter emergency breathing apparatus and emergency egress—962

Upper respiratory tract infections, systemic corticosteroid use in aviators—453

Urinary calcium measures, tracking bone loss and kidney stone risk in space—689

Uterine bleeding, abnormal, considerations for long-duration spaceflight—543

V

Vehicle control, dynamic stabilization task using machine learning—479, E1(June)

Veno-venous extracorporeal oxygenation therapy, for high-altitude decompression sickness—106

Venous gas emboli, evolution and preservation at altitude—11, 455 (Letter)

Venous thromboembolism

in women, considerations for long-duration spaceflight—543 pilot awareness of—343

potential risk in female astronauts—432

Verbal reports, effect on flight performance under spatial disorientation—948

Vestibular evoked myogenic potentials, cervical and ocular, in tests for seasickness—852

Vestibular system

impact of flight illusions on precise approach—767

motion sickness in aerobatic pilots—326
responses after long-duration spaceflight—621
Vestibular tests, limitations of, for seasickness—852
Vestibulo-ocular responses, in aerobatic pilots—326
Vestibulo-sympathetic reflex, after long-duration spaceflight—621
Vigilance aids, modafinil and aircraft carrier landing
performance—518

Viral infections, improving airline passenger and crew safety—611 Virtual reality

autonomous psychological support for isolation—876, E2(Nov) self-kinematic training neck pain in pilots—790 shooting performance in simulated motion sickness—703

Vision defects, shifts in color vision with hypoxia—394 Visual field dependence, vestibular function in aerobatic

Visual field dependence, vestibular function in aerobatic pilots—326

Visual flight rules (VFR), helicopter critical care transport times vs. IFR and ground—98

Visual scanning behaviors, during instrument landing system approach—511

Visual search strategies, effect of pilots' cognitive load—489 Vitamin B12 deficiency, related to syncope in military pilot—746 Vitreous hemorrhage, spontaneous, in naval aviator—904 Voice reactivity, as marker for acute hypobaric hypoxia—471

W

Waivers—See also Aeromedical disposition migraine history in military pilot applicants—37

Wavelength discrimination, shifts in color vision with hypoxia—394

Wearables, for ECG electrode placement—866

Weather, interpretability of displays for general aviation—318

Wildlife encounters, tularemia in an aviator—379

Women's health—See also Gender differences gynecologic risk mitigation for long-duration spaceflight—543

venous thromboembolism risk in female astronauts—432

Work capacity, microgravity and muscle function—422

Workload, pilot, assessment of—932

Y

You're the Flight Surgeon—59, 116, 379, 459