

A

- Abdominal crunch syndrome, in a pilot–86
- Abstracts
93rd Annual Scientific Meeting–149
not presented–655
- Acceleration
autonomic modulation and +G_z in fighter pilots–761
CBF-based modeling of G_z-induced effects–409
G-test results in Air Force cadets–384
grating stimulus as visual endpoint for G tolerance–894
layperson tolerance in simulated spaceflight–584
tolerance in subject with hemophilia A–470
- Acceleration atelectasis, cabin pressure altitude effect on–3
- ACCES system, skin pathology in deployed fighter aircrew using–396
- Accidents, aviation
aeronautical decision-making role in–807
during agricultural aviation operations–852
Canadian ultralight, in water–437
in Hawaii, regional approach to analysis–131
- Acute medical care
AI applications for space medicine–610
for hydrazine inhalation in spaceflight–532
- Acute radiation sickness, AI applications for space medicine–610
- Aero-otitis media, pilot qualification after–629
- Aerobatics, CBF-based modeling of G_z-induced effects–409
- Aerobic exercise, interval, and sweat loss in space–623
- Aeromedical disposition—*See also* Waivers
aero-otitis media after balloon Eustachian tubuloplasty–629
blue rubber bleb nevus syndrome–415
centipede envenomation–944
corticosteroid-induced psychosis–561
familial cerebral cavernous malformation–733
glioblastoma multiforme–949
hypogonadism–800
paroxysmal atrial fibrillation in a pilot–97
pernicious anemia–796
for pilot applicants to British Army Air Corps–939
post-COVID-19 infection–728
request for COVID-19 vaccination on ISS–645
Salzmann's nodular degeneration in pilot–400
seronegative rheumatoid arthritis–488
sleep apnea in USAF pilot–648
sudden neurological symptoms in altitude chamber attendant–558
supratentorial stroke–864
- Aeronautical decision-making, role in fatal aviation accidents–807
- Aerospace Medical Association (AsMA)
93rd Annual Scientific Meeting abstracts–149
annual lectures–148
Association News–52, 143, 493, 569, 656
award winners–569
bylaws–358
constituent organization presidents–493
council–353
minutes of 2022 business meeting–356
past presidents–352
staff–355, 805
Wing board of directors–355
- Aerospace medicine
aviation decompression sickness in–11
extended reality applications for space health–122
USAF Medical Risk Assessment and Airworthiness Matrix–314
- Aerospace Medicine and Human Performance*
President's Page–2, 53, 101, 145, 367, 421, 499, 583, 665, 737, 805, 873
- Aerospace Medicine Clinic
blue rubber bleb nevus syndrome–415
cardioembolic stroke–415
centipede envenomation–944
corticosteroid-induced psychosis–561
familial cerebral cavernous malformation–733
glioblastoma multiforme–949
hypogonadism–800
late latent syphilis in patient with HIV–861
paroxysmal atrial fibrillation–97
pernicious anemia–796
recertification post-COVID-19 infection in a pilot–728
seronegative rheumatoid arthritis–488
sleep apnea in aviator–648
spaceflight immunology and vaccine ethics–645
sudden neurological symptoms in altitude chamber attendant–558
- Aerozine, acute inhalation in spaceflight–532
- Agricultural aviation, wire strikes and in-air obstacle collisions–852
- Air Force cadets, Korean, G-test results in–384
- Air quality
revisions to SMACs for benzene–544
SMAC for ethyl acetate–25
- Air traffic controller, HIV and syphilis in–861
- Aircraft—*See also specific aircraft types*
cockpit performance evaluation metrics–696
- Airline pilots—*See* Commercial airline pilots
- Airplane travel, by patients with COPD–102, E1 (Mar)
- Airworthiness, USAF Medical Risk Assessment and Airworthiness Matrix–314
- Alendronate, countermeasures on long-duration spaceflight–389
- Allergic rhinitis, in China National Railway employees–821
- Altitude effects
biomarkers for exertional decompression stress–738
in COPD patients during air travel–102, E1 (Mar)
DCS in high-altitude parachutist dispatchers–666
detecting hypoxia tolerance at high altitude–485
high G atelectasis–3
lingering, in synthetic cockpit–135
moderate-altitude vs. sea-level mice–887
sudden neurological symptoms in altitude chamber attendant–558
- American Board of Preventive Medicine–737
- American Heart Month–53
- Anemia, pernicious–796
- Anesthesia, AI applications for space medicine–610
- Anesthetist-Intensivists, in-flight medical emergency skills–94 (Letter)
- Aneurysms, in blue rubber bleb nevus syndrome–415
- Animal models, moderate-altitude vs. sea-level mice–887
- Anthropometrics, cockpit performance evaluation techniques–696
- Anticoagulation therapy, with paroxysmal atrial fibrillation–97
- Anxiety, exercise effect on mental health in quarantine–686
- Apnea—*See* Obstructive sleep apnea syndrome
- Apollo-Soyuz Test Project, legacy of–651
- Armstrong lecture–367
- Artemis program, surface EVA performance risks–34

Arterial oxygen saturation (SpO₂)
 voluntary hyperventilation during hypoxia-59
 wearable devices for monitoring-42, E1(Jan)
 Artificial intelligence (AI), applications in space medicine-610
 Astronauts—*See also* Spaceflight
 3D ultrasound of jugular vein on ISS-466
 crew fatality considerations on ISS-705
 retention and transfer of knowledge and skills-902
 surface EVA performance risks-34
 Atelectasis, high G, cabin pressure altitude effect on-3
 Atrial fibrillation, paroxysmal, in a pilot-97
 Attrition, medical, of pilot applicants to British Army Air Corps-939
 Auditory white noise, and performance in lunar landing
 simulation-770, E1(Oct)
 Augmented reality, applications for space health-122
 Aural barotrauma, pilot qualification after-629
 Autoimmune disorders, seronegative rheumatoid arthritis-488
 Autonomic modulation, responses to +G_z in fighter pilots-761
 Aviation safety—*See* Safety, aviation
 Aviators—*See* Pilots
 AW159 helicopters, spatial disorientation training scenarios-377

B

Balloon Eustachian tubuloplasty, pilot qualification after-620
 Baroparesis, facial, in aviation-404
 Barotitis media, pilot qualification after-620
 Battery fire, cellphone burn during a parachute jump-793
 Behavioral health
Behavioral Health and Human Interactions in Space (Kanas) -644
 crew fatality considerations aboard ISS-706
 in spaceflight (NASA Symposium)-634
 SSRI for deep space missions-843
 Benzene, off-nominal SMACs-544
 Benzodiazepine, for acute urinary retention-90
 Bioastronautics, surface EVA performance risks-34
 Biomarkers, for exertional hypobaric decompression stress-738
 Bisphosphonates, countermeasures on long-duration spaceflight-389
 Bladder relief, effects on cognitive performance-79
 Bleeding disorders, in commercial spaceflight participants-470
 Bloat, human remains containment during spaceflight-368
 Blue rubber bleb nevus syndrome-415
 Body bags, human remains containment during spaceflight-368
 Body surface area, heat intolerance and return to duty-546
 Bodybuilding, myocardial infarction in a young fighter pilot-719
 Bone mineral density (BMD)
 countermeasures on long-duration spaceflight-389
 exercise and nutrition impact in spaceflight-923
 SSRI effects on, for deep space missions-843
 Book review
Behavioral Health and Human Interactions in Space (Kanas)-644
 Brain function, imaging changes in space headache-678
 Brain microstructure, imaging changes in space headache-678
 British Army Air Corps, medical attrition for pilot applicants-939
 Burn injury, due to cellphone during parachute jump-792

C

C-reactive protein (CRP), biomarker of hypobaric decompression
 stress-738
 Cabin atmosphere, USAF Manned Orbiting Laboratory research on
 helium in-565
 Cabin pressure, high G atelectasis and altitude effect-3
 Caffeine, effect on pilots' performance-750
 Calcium, supplementation effect on BMD in spaceflight-923
 Canada, ultralight accidents in water-437
 Cardiac function, in student pilots during flight training-475, 835

Cardiology
 coronary artery disease in military aircrew-917
 paroxysmal atrial fibrillation-97
 Cardiopulmonary reserve function (CPRF), high
 G tolerance and-911
 Cardiovascular deconditioning, AI applications for space
 medicine-610
 Cardiovascular disease, management in military aircrew-917
 Case reports
 abdominal crunch syndrome in a pilot-86
 acute urinary retention medications-90
 cellphone burn during a parachute jump-793
 delayed drowsiness after hypoxia training-715
 flying after aero-otitis media-629
 heart rate variability in a student pilot-475
 heat intolerance, body size, and return to duty-546
 hemophilia A in commercial spaceflight-470
 implantable collamer lens use in space-48
 myocardial infarction in a bodybuilder fighter pilot-719
 Salzmann's nodular degeneration-400
 transient facial nerve palsy in aviation-404
 Cellphones, burn injury due to during parachute jump-792
 Cellular dysfunction, human limits to long-term
 spaceflight-444
 Centipede envenomation-944
 Centrifuge training
 CPRF and high G tolerance in aviators-911
 grating stimulus as visual endpoint for G tolerance-894
 layperson tolerance and performance-584
 tolerance in subject with hemophilia A-470
 Cerebral blood flow (CBF), CBF-based modeling of G_z-induced
 effects-409
 Cerebral cavernous malformation, familial, in a pilot-733
 Cerebral oxygenation, in COPD patients during air
 travel-102, E1(Mar)
 Cervico-thoracic pain, risk factors in military aircrew-500
 China
 allergic rhinitis in railway employees-821
 high G tolerance and CPRF in Air Force aviators-911
 Chronic obstructive pulmonary disease (COPD), air travel
 with-102, E1(Mar)
 Circadian rhythms, HEV light for day to night shifts in
 aviators-66
 Civil Aerospace Medical Institute, CBF-based modeling of
 G_z-induced effects-409
 Civil aviation
 CBF-based modeling of G_z-induced effects-409
 pilot recertification post-COVID-19 infection-728
 Cockpit, aircraft, performance evaluation techniques-696
 Cognitive performance—*See also* Human performance
 astronauts' retention and transfer of learning-902
 voluntary urine retention effects on-79
 Cohesion, team, for long duration spaceflight-457
 Collisions, in agricultural aviation operations-852
 Colombia Air Force, metabolic syndrome and hyperlipidemias in
 airmen-604
 Color vision, cone specific tests of-54
 Combat, air
 +Gz standards for Indian Air Force-780
 team situation awareness in simulated-429
 Commercial airline passengers
 with COPD-102, E1(Mar)
 transient facial nerve palsy in-404
 Commercial airline pilots
 performance facing unexpected events-18
 temporary incapacitation of in the UAE-113

Commercial spaceflight participants
with hemophilia A–470
tolerance and performance in centrifuge–584
Computer-human interaction, cockpit performance evaluation techniques–696
Confinement, human limits to long-term spaceflight–444
Corneal degeneration, in a pilot applicant–400
Coronary artery disease, management in military aircrew–917
Corticosteroid-induced psychosis, in a student pilot candidate–561
Corticosteroids, psychosis induced by–561
Countermeasures
denosumab in long-duration spaceflight–389
to human limits on long-term spaceflight–444
interval aerobic exercise and sweat loss–623
metabolic cost of NMES vs. walking–523
COVID-19
exercise effect on mental health in quarantine–686
recertification of a pilot post-infection–728
request for vaccination aboard ISS–645
Cranial electrotherapy stimulation, vs. SSRIs for deep space missions–843
Crashes—*See* Accidents, aviation
Crew resource management, cockpit performance evaluation techniques–696
Critical care, IV fluid resuscitation in space–596, E1(Aug)
Cultural diversity, in teams for long duration spaceflight–457

D

Data management, cockpit performance evaluation techniques–696
Daytime sleepiness, excessive, civilian pilot obesity and–815
Death, during spaceflight, remains management for–368
Decision support, AI applications for space medicine–610
Decision-making
aeronautical, role in fatal aviation accidents–807
for MEDEVAC in space exploration missions–875
Decomposition, human remains containment during spaceflight–368
Decompression sickness (DCS)
in altitude chamber attendant–558
diagnosis in aerospace and hyperbaric medicine–11
in parachutist dispatchers at high altitude–666
Decompression stress, exertional hypobaric, biomarkers for–738
Deep vein thrombosis, in spaceflight (NASA Symposium)–634
Denosumab, osteopenia in long duration spaceflight–389
Dentistry, fiber post bond strength in hypobaric pressure changes–508
Depression, exercise effect on mental health in quarantine–686
Dermatitis, in fighter aircrew using custom hearing protection–396
Diffusion tensor imaging, brain changes in space headache–678
Dim light melatonin onset (DMLO), HEV light for day to night shifts in aviators–66
Disorientation—*See* Spatial disorientation
Disqualification—*See also* Aeromedical disposition
medical, of pilot applicants to British Army Air Corps–939
Ditching, ultralight accidents in water–437
Diversity, in teams for long duration spaceflight–457
Drowsiness, after hypoxia training in F/A-18 hornet simulator–715

E

Ear problems
aero-otitis media, pilot qualification after–629
due to hearing protection in deployed fighter aircrew–396
Eating behaviors, G-test results in Korean Air Force cadets–384
Egress, cockpit performance evaluation techniques–696

Electrical impedance tomography, high G atelectasis and altitude–3
Electrical stimulation, metabolic cost of NMES vs. walking–523
Emergencies, in-flight, training for the general medical community–94 (Letter)
Emergency physicians, in-flight medical emergency skills–94 (Letter)
Endodontics, fiber post bond strength in hypobaric pressure changes–508
Energy expenditure, of NMES spaceflight countermeasure vs. walking–523
Ergonomics, cockpit performance evaluation techniques–696
Errata–557, 647, 951
Ethical issues, request for COVID-19 vaccination aboard ISS–645
Ethyl acetate, spaceflight maximum allowable concentrations–25
Eustachian tube dysfunction, aero-otitis media in pilots–629
Eustress activities, heart rate variability in student pilots–475, 835
Evacuation, medical (MEDEVAC), risks in space exploration–875
Excessive daytime sleepiness, role of civilian pilot obesity in–815
Exercise
abdominal crunch syndrome in a pilot–86
effect on mental health in isolation or quarantine–686
inertial exercise trainer in spaceflight–923
myocardial infarction in a bodybuilder fighter pilot after–719
nutrition impact on strains and BMD in spaceflight–923
Exercise countermeasures
in-flight exercise and nutrition impact on BMD–923
metabolic cost of NMES vs. walking–523
sweat loss and exercise modality–623
Exercise testing, cardiopulmonary, and high G tolerance–911
Exploration-class missions—*See also* Long-duration space missions
IMPACT 1.0 medical conditions list–550
IV fluid resuscitation use on–596, E1(Aug)
MEDEVAC risks on–875
Extended reality, applications for space health–122
Extravehicular activity (EVA), surface, performance risks during–34

F

F/A-18 Hornet simulator, drowsiness after hypoxia training in–715
Facial nerve palsy, transient, in aviation–404
Fatalities
crew fatality considerations on ISS–705
remains management during spaceflight–368
role of aeronautical decision-making in–807
Fatigue
caffeine effect on pilots' performance–750
HEV light for day to night shifts in aviators–66
waiver for sleep apnea in a USAF pilot–648
Fiber posts, bond strength in hypobaric pressure changes–508
Fighter pilots—*See also* Military pilots
+G_z standards for Indian Air Force–780
acute myocardial infarction in a bodybuilder–719
cervico-thoracic pain risk factors in–500
delayed drowsiness after hypoxia training–715
hearing protection and skin pathology in–396
high G atelectasis and altitude–3
high G tolerance and cardiopulmonary reserve function–911
measuring isometric neck muscle strength–480
neuro-cardiovascular response to +G_z acceleration–761
team situation awareness in air combat–429
Fitness to fly—*See* Safety, aviation; Aeromedical disposition; and Waivers
Flight performance, in facing unexpected events–18
Flight simulation—*See* Simulated flight
Flight training—*See* Training
Force measurements, neck muscle strength in fighter pilots–480
Forced inspiratory vital capacity, high G atelectasis and altitude–3
Forensic pathology, in crew fatality aboard the ISS–705
Fractures, facial, from night vision goggle impact–827

G

- G forces, autonomic modulation and +G_z in fighter pilots–761
- G tolerance
 - +G_z standards for Indian Air Force–780
 - CBF-based modeling of G_z-induced effects–409
 - G-LOC testing in Korean Air Force cadets–384
 - grating stimulus as visual endpoint for–894
 - high, and cardiopulmonary reserve function in aviators–911
- Galvanic vestibular stimulation, noisy, and performance in lunar landing simulation–770, E1(Oct)
- Gender, in teams for long duration spaceflight–457
- General aviation
 - accident analysis in Hawaii–131
 - accidents during agricultural aviation operations–852
 - role of aeronautical decision-making in–807
- Genetic processes, human limits to long-term spaceflight–444
- German Air Force, coronary artery disease management in–917
- Glial fibrillary acidic protein (GFAP), biomarker of hypobaric decompression stress–738
- Glioblastoma multiforme, presenting as headache–949
- Grating loss, as visual endpoint for G tolerance in centrifuge research–894
- Gravity—*See also* Microgravity
 - human limits to long-term spaceflight–444
- Grigoriev, Anatoly I., legacy in space medicine–723
- Gym workouts, aggressive, myocardial infarction in a fighter pilot after–719

H

- Hawaii, regional aviation accident analysis in–131
- Head-down-tilted bed rest, brain changes in space headache–678
- Headache
 - due to glioblastoma multiforme–949
 - in familial cerebral cavernous malformation in pilot–733
 - space, imaging changes in–678
- Health, human
 - on the Moon (NASA Symposium summary)–634
 - in space, extended reality applications for–122
- Hearing protection, skin pathology in fighter aircrew using–396
- Heart rate variability, in student pilots during flight training–475, 835
- Heat intolerance, body size and return to duty–546
- Heat tolerance test–546
- Helicopter aircrew
 - cervico-thoracic pain risk factors in–500
 - cockpit ergonomics and neck pain in–107
- Helicopters
 - aviation accident analysis in Hawaii–131
 - AW159, spatial disorientation training scenarios–377
- Helium, USAF Manned Orbiting Laboratory research on–565
- Hematology
 - hemophilia A in commercial spaceflight–470
 - pernicious anemia–796
 - SSRI effects on, for deep space missions–843
- Hemophilia A, in a commercial spaceflight participant–470
- High energy visible (HEV) light, for day to night shifts in aviators–66
- High-performance aircraft, aviation decompression sickness in–11
- History
 - Focus on Aerospace Medicine History–565, 651, 868
 - space medicine legacy of Anatoly I. Grigoriev–723
 - This Month in Aerospace Medicine History–51, 100, 142, 419, 420, 568, 654, 736, 804, 872, 952
- HIV-associated neurocognitive disorder (HAND)–861
- Human centrifuge
 - CPRF and high G tolerance in aviators–911

- grating stimulus as visual endpoint for G tolerance–894
- layperson spaceflight participants in–584
- in a spaceflight participant with hemophilia A–470
- Human immunodeficiency virus (HIV), and syphilis in an air traffic controller–861
- Human performance—*See also* Cognitive performance
 - accidents in agricultural aviation operations–852
 - aeronautical decision-making and accidents–807
 - caffeine effect on pilots after extended wakefulness–750
 - cockpit performance evaluation techniques–696
 - operational, in laypersons in simulated spaceflight–584
 - sensory noise effects on lunar landing simulation–770, E1(Oct)
 - surface EVA performance risks–34
- Human remains containment units, for use in spaceflight–368
- Human-computer interaction, cockpit performance evaluation techniques–696
- Hydration, voluntary urine retention and cognitive performance–79
- Hydrazines, recovery from acute inhalation during spaceflight–532
- Hyperbaric medicine, aviation decompression sickness in–11
- Hypergolic fluids, acute inhalation in spaceflight–532
- Hypergravity
 - layperson tolerance and performance–594
 - tolerance in subject with hemophilia A–470
- Hyperlipidemias
 - in military airmen–604
- Hyperventilation
 - cardiorespiratory responses to–59
 - lingering altitude effects in simulated cockpit–135
- Hypobaric chamber, sudden neurological symptoms in attendant–558
- Hypobaric pressure changes, bond strength of fiber posts in–508
- Hypobaric stress, biomarkers for–738
- Hypogonadism, in a military pilot–800
- Hypoxemia, wearable devices for SpO₂–42, E1(Jan)
- Hypoxia
 - cardiorespiratory responses to–59
 - in COPD patients during air travel–102, E1(Mar)
 - detecting tolerance to at high altitude–485
 - lingering altitude effects in simulated cockpit–135
 - residence at moderate altitude vs. sea level–887
- Hypoxia training, drowsiness after, in an F/A-18 hornet simulator–715
- Hypoxia-inducible factor (HIF-1), in detecting hypoxia tolerance–485

I

- Imaging
 - 3D ultrasound of jugular vein on ISS–466
 - brain changes in space headache–678
 - functional MRI, brain changes in space headache–678
 - MRI in familial cerebral cavernous malformation–733
 - x-rays in simulated parabolic flight–786
- Immersive technology, applications for space health–122
- Immune system, human limits to long-term spaceflight–444
- Immunology, request for COVID-19 vaccination aboard ISS–645
- IMPACT 1.0 medical condition list–550
- Impact injuries, facial fracture from night vision goggles–827
- Implantable collamer lens, in short-duration spaceflight–48
- In memoriam, Dr. Frank Pettyjohn–52
- In-flight incapacitation, abdominal crunch syndrome in a pilot–86
- In-flight medical emergencies, training for general medical community–94 (Letter)

Indian Air Force, +G_z standards for–780
 Inertial exercise trainer, and BMD in spaceflight–923
 Infections, AI applications for space medicine–610
 Ingress, cockpit performance evaluation techniques–696
 Innova cone contrast test–54
 Insect bites, centipede envenomation–944
 International Space Station (ISS)
 biomedical research on (NASA Symposium)–634
 crew fatality considerations–705
 denosumab countermeasure for osteopenia–389
 request for COVID-19 vaccination aboard–645
 SMAC for ethyl acetate–25
 Interval exercise, in space, sweat loss and–623
 Intravenous fluids, use in simulated reduced gravity–596, E1(Aug)
 Isolation
 exercise effect on mental health in quarantine–686
 human limits to long-term spaceflight–444

J

Joint position error, cervical, and cockpit ergonomics–107

K

Ketamine, vs. SSRIs for deep space missions–843
 Konan Medical cone contrast test–54

L

Laypersons
 spaceflight participants with hemophilia A–470
 tolerance and performance in hypergravity–584
 License suspension, due to temporary incapacitation in airline pilots–113
 Light, HEV, for day to night shifts in aviators–66
 Light conditions, aviation accident analysis in Hawaii–131
 Lithium-ion batteries, cellphone burn during a parachute jump–793
 Living in space, human physiological limitations to–444
 Long-duration space missions
 SSRIs and other modalities for–843
 denosumab as osteopenia countermeasure–389
 human physiological limitations in–444
 IMPACT 1.0 medical conditions list–550
 IV fluid resuscitation use on–596, E1(Aug)
 team composition for–457
 Loss of consciousness (LOC)
 G-LOC test results in Korean Air Force cadets–384
 gravity induced, high G tolerance and–911
 Low-Earth orbit
 crew fatality considerations on ISS–705
 human remains containment during–368
 Lunar missions
 human health on (NASA Symposium)–634
 sensory noise and performance during simulated landing–770, E1(Oct)
 surface EVA performance risks–34

M

Machine learning, AI applications in space medicine–610
 Magnetic resonance imaging (MRI)
 in familial cerebral cavernous malformation–733
 functional, brain changes in space headache–678
 Mars missions
 MEDEVAC risks on–634
 medical care on (NASA Symposium)–639
 Maxillary fractures, from night vision goggle impact–827
 Medical conditions, in spaceflight, IMPACT 1.0 list–550

Medical disqualification—*See also* Aeromedical disposition
 of pilot applicants to British Army Air Corps–939
 Medical evacuation (MEDEVAC), risks in space exploration–875
 Medical Risk Assessment and Airworthiness Matrix–314
 Medications
 for acute urinary retention–90
 SSRIs for deep space missions–843
 Mental health
 AI applications for space medicine–610
 exercise effect on in isolation–686
 SSRIs for deep space missions–843
 Mental rotation test, assessing pilots' spatial visualization ability–422
 Metabolic cost, of NMES spaceflight countermeasure vs. walking–523
 Metabolic syndrome, in military airmen–604
 Methemoglobinemia, acute hydrazine inhalation in spaceflight–532
 Mice, moderate-altitude vs. sea-level–887
 Microgravity
 postmortem remains containment in–368
 x-ray imaging in parabolic flight–786
 Migraines, in altitude chamber attendant–558
 Military aircrew
 cervico-thoracic pain risk factors in–500
 coronary artery disease management in–917
 DCS in high-altitude parachutist dispatchers–666
 hyperlipidemias in–604
 metabolic syndrome in–604
 osteopathic manipulative treatment to prevent motion sickness–934, E1(Dec)
 responses to hyperventilation during hypoxia–59
 Military personnel
 facial fracture from night vision goggle impact–827
 heat intolerance, body size and return to duty–546
 Military pilots—*See also* Fighter pilots
 caffeine effect on pilots after extended wakefulness–750
 CBF-based modeling of G_z-induced effects–409
 cockpit ergonomics and neck pain in–107
 diagnosing decompression sickness in–11
 medical attrition for pilot applicants–939
 osteopathic manipulative treatment to prevent motion sickness–934, E1(Dec)
 paroxysmal atrial fibrillation in–97
 team situation awareness in air combat–429
 testosterone replacement treatment and hypogonadism–800
 waiver for sleep apnea in USAF pilot–648
 Modeling, CBF-based modeling of G_z-induced effects–409
 Moderate altitude, residence at, vs. sea-level–887
 Monitoring
 responses to hyperventilation during hypoxia–59
 wearable devices for SpO₂–42, E1(Jan)
 Monomethylhydrazine, acute inhalation in spaceflight–532
 Mood, exercise effect on mental health in quarantine–686
 Moon missions
 human health on (NASA Symposium)–634
 sensory noise and performance in lunar landing–770, E1(Oct)
 surface EVA performance risks–34
 Morphometric differences, residing at moderate altitude vs. sea level–887
 Motion sickness, osteopathic manipulative treatment for–934, E1(Dec)
 Musculoskeletal disorders, cervico-thoracic pain risk in military aircrew–500
 Myocardial infarction
 acute, in bodybuilder fighter pilot–719
 management in military aircrew–917

N

- National Aeronautics and Space Administration (NASA)
 - MEDEVAC risks in space exploration-875
 - Spaceflight for Everybody symposium-634
- Nationalities, in teams for long duration spaceflight-457
- Near-infrared spectroscopy, of COPD patients during simulated air travel-102, E1(Mar)
- Neck muscles, in fighter pilots, measuring strength of-480
- Neck pain, cockpit ergonomics impact on-107
- Necrotizing fasciitis, after centipede envenomation-944
- Nerve palsy, facial, in aviation-404
- Neurocardiovascular system, responses to +G_z in fighter pilots-761
- Neurocognitive concerns
 - in case of HIV and syphilis-861
 - with SSRIs for deep space missions-843
- Neurological symptoms
 - headache, in familial cerebral cavernous malformation-733
 - headache, in glioblastoma multiforme-949
 - sudden, in altitude chamber attendant-558
- Neuromuscular electrical stimulation (NMES), metabolic cost of-523
- Neurotoxicity, acute hydralazine exposure during spaceflight-532
- Night flying, caffeine effect on pilots after extended wakefulness-750
- Night shiftwork, HEV light for day to night shifts in aviators-66
- Night vision goggles, facial fracture injury from impact-827
- Noise
 - auditory white, and performance in a lunar landing simulation-770, E1(Oct)
 - dermatitis in fighter aircrew using hearing protection-396
- Nordstrom cone contrast test-54
- Nutrition, and exercise impact on BMD in spaceflight-923

O

- Obesity, excessive daytime sleepiness in pilots-815
- Obstructive sleep apnea syndrome
 - aviators' residual sleepiness risk-74
 - pilot obesity and excessive daytime sleepiness-815
 - waiver for, in a USAF pilot-648
- Occupational exposure
 - acute inhalation of hydrazines in spaceflight-532
 - revisions to SMACs for benzene-544
 - SMAC for ethyl acetate-25
- Occupational health, temporary pilot medical incapacitation-113
- Off-gassing, SMAC for ethyl acetate-25
- Operational medicine, hearing protection and skin pathology in fighter aircrew-396
- Ophthalmology
 - AI applications for SANS-610
 - cone specific color vision tests-54
 - implantable collamer lens use in space-48
 - physiological changes due to SANS-634
 - Salzmann's nodular degeneration-400
- Orbit injury fractures, from night vision goggle impact-827
- Organ system dysfunction, human limits to long-term spaceflight-444
- Orthostatic intolerance, postflight, AI applications for space medicine-610
- Osteopathic manipulative treatment
 - to prevent motion sickness in military aircrew, 934, E1(Dec)
- Osteopenia, denosumab in long-duration spaceflight-389

- Osteoporosis, countermeasures on long-duration spaceflight-389
- Oxidative stress, biomarkers for exertional hypobaric-738

P

- Pachychoroid pigment epitheliopathy, implantable collamer lens use in space-48
- Pain
 - cervico-thoracic, risk factors in military aircrew-500
 - neck, cockpit ergonomics impact on-107
- Parabolic flight, x-ray imaging in simulated-786
- Parachuting
 - cellphone burn injury during-792
 - high-altitude, DCS in dispatchers-666
- Parachutist dispatchers, DCS after repeated high altitude exposure-666
- Passengers, airline
 - with COPD-102, E1(Mar)
 - transient facial nerve palsy in-404
- Performance enhancement, caffeine effect on pilots after extended wakefulness-750
- Permanent license suspension, in commercial airline pilots in UAE-113
- Personality, in teams for long duration spaceflight-457
- Pharmacology, SSRIs for deep space missions-843
- Physical activity—*See also* Exercise
 - effect on mental health in quarantine-686
- Physical fitness, G-test results in Korean Air Force cadets-384
- Physiological events
 - to hyperventilation during normobaric hypoxia-59
 - lingering altitude effects in synthetic cockpit-135
 - residing at moderate altitude vs. sea level-887
 - in spaceflight (NASA Symposium)-634
- Pilots—*See also* Commercial airline pilots; Helicopter aircrew; *and* Military pilots
 - acute abdominal pain in-86
 - aero-otitis media in, qualification after-629
 - aeronautical decision-making role in accidents-807
 - cockpit performance evaluation metrics-696
 - cone specific color vision tests for-54
 - facing unexpected events-18
 - HEV light for day to night shifts-66
 - obesity and excessive daytime sleepiness in-815
 - with obstructive sleep apnea syndrome-74
 - recertification post-COVID-19-728
 - spatial visualization ability assessment-422
 - student, heart rate variability in flight training-475, 835
 - wearable devices for SpO₂-42, E1(Jan)
- Polycythemia, due to testosterone replacement treatment-800
- Postmortem containment, of remains during spaceflight-368
- Precision piloting, lingering altitude effects in simulated-135
- Pressure equalization tubes, facial nerve palsy in aviation-404
- Proprioception, cervical, cockpit ergonomics influence on-107
- Prosthodontics, fiber post bond strength in hypobaric pressure changes-508
- Protein supplements, myocardial infarction in a bodybuilder fighter pilot-719
- Psychological health, AI applications for space medicine-610
- Psychosis, corticosteroid-induced-561
- Pulse oximeter, wearable devices in varying conditions-42, E1(Jan)
- Pyridoxine, acute inhalation in spaceflight-532

Q

- Quality of life issues, allergic rhinitis in railway employees-821
- Quarantine, exercise effect on mental health in-686

R

Radiation, space
 AI applications for acute radiation sickness–610
 human limits to long-term spaceflight–444
 physiological changes due to–634
 Radiography, in simulated parabolic flight–786
 Railway employees, allergic rhinitis in–821
 Rectus abdominis syndrome, in a pilot–86
 Remains, human
 containment during spaceflight–368
 management aboard the ISS–705
 Remote environments, acute urinary retention in–90
 Republic of Korea Air Force Academy, G-test results in cadets–384
 Resin cement, fiber post bond strength in hypobaric pressure changes–508
 Resistance exercise, and BMD in spaceflight–923
 Respiration rate, lingering altitude effects in simulated cockpit–135
 Resuscitation, IV fluid use in space–596, E1(Aug)
 Retention of learning, by astronauts–902
 Return to work, after temporary incapacitation in airline pilots–113
 Reviews
 acute hydrazine inhalation in spaceflight–532
 AI applications in space medicine–610
 cockpit performance evaluation metrics–696
 denosumab in long-duration spaceflight–389
 exercise, nutrition, and BMD in spaceflight–923
 exercise effect on mental health in quarantine–686
 extended reality applications for space health–122
 human physiological limits in space–444
 ISS fatality considerations–705
 SMAC for ethyl acetate–25
 SSRIs for deep space missions–843
 surface EVA performance risks–34
 team composition for long-duration spaceflight–457
 Rheumatoid arthritis, seronegative, in a military aviator–488
 Risk assessment
 for MEDEVAC in space exploration missions–634
 on the Moon and beyond (NASA Symposium)–634
 of pilot applicants to British Army Air Corps–939
 USAF Medical Risk Assessment and Airworthiness Matrix–314
 Risk factors, for cervico-thoracic pain in military aircrew–500
 Root canals, fiber post bond strength in hypobaric pressure changes–508
 Rotary-wing aircraft—*See also* Helicopters
 spatial disorientation training for AW159–377

S

Safety, aviation
 cellphone burn to skin during parachute jump–792
 abdominal crunch syndrome in a pilot–86
 caffeine effect on pilots after extended wakefulness–750
 HEV light for day to night shifts in aviators–66
 pilots and unexpected events–18
 Salzmann's nodular degeneration–400
 Screening, of pilot applicants to British Army Air Corps–939
 Sea level, residence at moderate altitude vs.–887
 Selective serotonin reuptake inhibitors (SSRIs), for deep space missions–843
 Self-reported prevalence, allergic rhinitis in railway employees–821
 Sepsis, AI applications for space medicine–610
 Shift work, caffeine effect on pilots' performance–750
 Simulated flight
 delayed drowsiness after hypoxia training–715
 HEV light for day to night shifts in aviators–66
 lingering altitude effects in–135
 spatial disorientation scenarios in AW159 helicopter–377
 team situation awareness in air combat–429
 Simulated spaceflight—*See also* Spaceflight
 additive sensory noise effects and performance–770, E1(Oct)
 brain changes in space headache–678
 IV fluid resuscitation in–596, E1(Aug)
 layperson tolerance and performance in–584
 in a subject with hemophilia A–470
 x-ray imaging in parabolic flight–786
 Simulator sickness, hypoxia training in an F/A-18 hornet simulator–715
 Situation awareness, of teams in simulated air combat–429
 Skin graft, full-thickness, after centipede envenomation–944
 Sleep apnea
 aviators' residual sleepiness risk–74
 waiver for, in USAF pilot–648
 Sleep issues
 in aviators with obstructive sleep apnea syndrome–74
 HEV light for day to night shifts in aviators–66
 Sleepiness
 excessive daytime, role of pilot obesity in–815
 residual, in aircrew with sleep apnea–74
 Smartphones, burn injury due to during parachute jump–792
 Soldiers—*See also* Military personnel
 heat intolerance, body size and return to duty–546
 Sopite syndrome, after hypoxia training in F/A-18 hornet simulator–715
 Space health—*See* Spaceflight
 Space medicine—*See also* Spaceflight
 legacy of Anatoly I. Grigoriev in–723
 Spaceflight maximum allowable concentrations (SMAC)
 benzene–544
 ethyl acetate–25
 Spaceflight—*See also* Commercial spaceflight and Simulated spaceflight
 3D ultrasound of jugular vein during–466
 3D-printed portable sterilizer for surgery in–857
 acute hydralazine exposure–532
 AI applications in space medicine–610
Behavioral Health and Human Interactions in Space (Kanas)–644
 crew fatality considerations on ISS–705
 denosumab as osteopenia countermeasure–389
 for everybody (Symposium summary)–634
 exercise and nutrition impact on BMD in–923
 extended reality applications for–122
 human physiological limitations in long-term–444
 human remains containment during–368
 IMPACT 1.0 medical condition list–550
 implantable collamer lens use in–48
 MEDEVAC risks in–875
 medications for acute urinary retention–90
 metabolic cost of NMES countermeasure vs. walking–523
 revisions to SMACs for benzene–544
 SMAC for ethyl acetate–25
 space headache, brain changes during–678
 SSRIs for deep space missions–843
 surface EVA performance risks–34
 team composition for long duration–457
 USAF Manned Orbiting Laboratory research on–565
 Spaceflight-associated neuro-ocular syndrome (SANS)
 AI applications for–610
 physiological changes (NASA Symposium)–634
 Spatial disorientation, AW159 helicopter training scenarios–377
 Spatial visualization ability, virtual reality assessment of–422
 Stanford Torus, human limits in long-term spaceflight–444
 Sterilizer, 3D-printed, for surgery in space–857
 Stochastic resonance, sensory noise and lunar landing–770, E1(Oct)

Strains, exercise-induced, nutrition impact on in spaceflight-923
 Stress, exercise effect on mental health in quarantine-686
 Stroke, waiver for pilot with supratentorial-864
 Student pilots, heart rate variability in flight training-475, 835
 Surgery, in space
 3D-printed portable sterilizer for-857
 AI applications for space medicine-610
 history of symposia on-868
 Suspension, due to temporary incapacitation in airline pilots-113
 Sweat loss, exercise modality in spaceflight-623
 Symposia
 Spaceflight for Everybody-634
 on surgical care in space-868
 Syphilis, and HIV in an air traffic controller-861

T

Tamsulosin, for acute urinary retention-90
 Task performance, by laypersons in simulated spaceflight-584
 Teams
 composition, for long duration spaceflight-457
 situation awareness in simulated air combat-429
 Technical Notes
 3D-printed portable sterilizer-857
 CBF-based modeling of G_z -induced effects-409
 creating the IMPACT 1.0 medical condition list-550
 HIF-1 sensor in detecting hypoxia-485
 measuring neck muscle strength-480
 Temporary license suspension, in commercial airline pilots in the UAE-113
 Test pilots, performance facing unexpected events-18
 Testosterone replacement treatment, and hypogonadism in a military pilot-800
 Three-dimensional (3D) printing, of sterilizer for surgery in space-857
 Thromboembolism, with paroxysmal atrial fibrillation-97
 Train crewmembers, allergic rhinitis in-821
 Training
 for cohesive teams for long duration spaceflight-459
 flight, heart rate variability in student pilots-475, 835
 operational, + G_z standards for Indian Air Force-780
 of physicians for in-flight medical emergencies-94 (Letter)
 for spatial disorientation scenarios in AW159 helicopters-377
 Transcranial magnetic stimulation, vs. SSRIs for deep space missions-843
 Transfer of learning, by astronauts-902
 Trauma
 facial fractures from night vision goggle impact-827
 IV fluid resuscitation in space-596, E1(Aug)
 Travel, air, effects on COPD patients-102, E1(Mar)
 Twin-engine aircraft, aviation accident analysis in Hawaii-131

U

U.S. Air Force—*See also* Military pilots
 Manned Orbiting Laboratory helium research-565
 Medical Risk Assessment and Airworthiness Matrix-314
 waiver for sleep apnea in a USAF pilot-648
 U.S. Army—*See also* Military pilots
 osteopathic manipulative treatment to prevent motion sickness-934, E1(Dec)

U.S. Navy—*See also* Military pilots
 aviation decompression sickness-11
 Ultralight aircraft, water accidents-437
 Ultrasonography
 3D of jugular vein on ISS-466
 transcranial, vs. SSRIs for deep space missions-843
 United Arab Emirates, temporary commercial airline pilot incapacitation-113
 Urine retention
 acute, medications for-90
 voluntary, effects on performance-79

V

Vaccines, request for COVID-19 vaccination aboard ISS-645
 Venous gas emboli
 biomarkers for exertional hypobaric decompression stress-738
 DCS in high-altitude parachutist dispatchers-666
 Venous malformations, tortuous, in blue rubber bleb nevus syndrome-415
 Venous ultrasound, motorized 3D, of the jugular vein on ISS-466
 Virtual reality
 applications for space health-122
 assessing pilots' spatial visualization ability-422
 Vision
 cone specific color vision tests-54
 implantable collamer lens use in space-48
 Visual changes, as endpoint for G tolerance in centrifuge research-894
 Vitamin D, supplementation effect on BMD in spaceflight-923
 Volatile organic compounds, SMAC for ethyl acetate-25

W

Waivers
 after centipede envenomation and skin graft-948
 Salzmann's nodular degeneration in a pilot applicant-400
 for sleep apnea in a USAF pilot-648
 for a USAF pilot with supratentorial stroke-864
 Wakefulness
 caffeine effect on pilots' performance after extended-750
 maintenance of, in aircrew with sleep apnea-74
 Walking, metabolic cost of NMES in spaceflight vs.-523
 Water accidents, with ultralight aircraft-437
 Wearable devices, measuring arterial oxygen saturation-42, E1(Jan)
 Well-being, exercise effect on mental health in quarantine-686
 White noise, auditory, and performance in lunar landing simulation-770, E1(Oct)
 Wilderness medicine, medications for acute urinary retention-90
 Wire strikes, in agricultural aviation operations-852

X

x-rays, on simulated parabolic flight-786

Z

Zygomatic fractures, from night vision goggle impact-827