2023 ABSTRACTS OF THE AsMA SCIENTIFIC SESSIONS

93rd Annual Scientific Meeting **Sheraton New Orleans**
May 21 – 25, 2023 **New Orleans, LA**

The following are the sessions and abstracts with rooms and presentation times for all presentations accepted after blind peer-review—in workshop, panel, slide, or poster sessions—for the 2023 Annual Scientific Meeting of the Aerospace Medical Association. The numbered abstracts are keyed to both the daily schedule and the author index. The Sessions numbers are listed as S-1 through S-89 (including workshops). Session chairs are included in the index to participants. The order of some sessions may have changed (check the Addendum provided at the meeting for the latest information). Abstracts withdrawn are listed as W/D. Presenters are underlined in the text.

SLIDES & PANELS: Each slide presentation is scheduled for 15 minutes (10-min talk and 5-min Q&A). We strive to keep slide presentation on time. Panel presentations have more flexibility and may not keep to a strict 15 minutes per presenter format. There will be a discussion period of 15 minutes at the end of each panel.

POSTERS: Posters will be presented digitally this year. Poster authors must be present for the full session in which their poster is scheduled.

EXHIBITS: Exhibits will be open Sunday evening during the Welcome Reception, and 9:30 a.m. to 4:30 p.m. Monday and Tuesday. Please wear your badge and visit every exhibit.

CONFLICT OF INTEREST: All meeting planners and presenters completed financial disclosure forms for this live educational activity. All potential conflicts of interest were resolved before planners and presenters were approved to participate in the educational activity. Any conflicts of interest that could not be resolved resulted in disqualification from any role involved in planning, management, presentation, or evaluation of the educational activity.

TEMPLATES: All Abstracts were submitted according to a certain category and type using provided templates. Not all abstracts submitted fit the mold for Original Research abstracts. We therefore have created an Education category with three additional types: Case Report, Program/Process, and Tutorial. The templates for these are provided for your information.

ORIGINAL RESEARCH TEMPLATE:

This type of abstract describes the results and significance of new research undertaken to address gaps in the current knowledge of aerospace medicine or human performance. It is typically an original analysis of a hypothesis involving data collection and analysis.

INTRODUCTION: *<This section includes the background, including a statement of the problem and why it is important, the status of the current research, and the hypothesis to be tested.>*
METHODS: *<This section includes a brief description of how the study was conducted, the number, type, and gender of the subjects, and how they were selected and grouped. It should also include the metrics collected, how they were measured, and how frequently they were recorded. The types of scales or questionnaires administered should be identified. Environmental conditions and administered medications should be described. In addition, a summary of the statistical methods should be provided. A statement concerning ethics approval for studies using human or animal subjects is also required.>*
RESULTS: *<This section includes a summary of the data and metrics of operational and/or statistical significance. "Results will be discussed" is not acceptable.>*
DISCUSSION: *<This section interprets the meaning of the results in terms of their application to the operational/clinical/scientific community and suggests areas for future research.>*

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EDUCATION: CASE STUDY: CLINICAL OR HUMAN PERFORMANCE TEMPLATE:

This type of abstract describes the analysis of an individual clinical or operational case that is not a research study but provides pertinent information directly applicable to aeromedical practices, safety, or human performance.

INTRODUCTION: *<This section concisely summarizes the case.>*
BACKGROUND: *<This section describes the importance of the case and provides supporting evidence in the form of a literature review.>*
CASE PRESENTATION: *<This section describes the event.>*
DISCUSSION: *<This section explains the applicability and relevance to civilian and military operations.>*

EDUCATION: PROGRAM/PROCESS REVIEW TEMPLATE:

This type of abstract can describe a new Service thrust, e.g., identifying capability gaps, or reviews of critical areas, e.g., safety. It may be a description of a program or process that is used to solve a problem or accomplish a task.

BACKGROUND: *<This section describes why this is important to AsMA attendees and why this needs to be addressed now.>*
OVERVIEW: *<This section concisely describes the effort and how it applies to current or future gaps.>*
DISCUSSION: *<This section describes (1) the operational or clinical significance, (2) how it will this advance aeromedicine/human performance, and (3) address whether it supports cross Service/International/Military – Civilian spheres.>*

EDUCATION: TUTORIAL TEMPLATE:

This type of abstract describes new tools, models, techniques, methodologies pertinent to civilian and military aerospace medicine and human performance.

INTRODUCTION: *<This section summarizes what will be covered, e.g., list of topics or syllabus.>*
TOPIC: *<Description of new technology, procedure, methodology.>*
APPLICATION: *<This section details how the new material will be implemented and how broadly it applies to aerospace medicine and human performance.>*
RESOURCES: *<This is an optional section to provide citations where additional information can be found.>*

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SUNDAY, MAY 21, 2023

Sunday, 05/21/2023, ***8:00 AM***
Rhythms Ballroom III

[S-01]: WORKSHOP: AEROSPACE MEDICINE FACULTY DEVELOPMENT WORKSHOP

Chair: Thomas Jarnot
Co-Chairs: Paul Newbold, David Miller

WORKSHOP OVERVIEW: *The Accreditation Council for Graduate Medical Education (ACGME) requires faculty members regularly participate in organized clinical discussions, rounds, journal clubs, conferences, and on an annual basis pursue faculty development designed to enhance their skills. Faculty development is intended to describe structured programming developed for the purpose of enhancing transference of knowledge, skill, and behavior from the educator to the learner. This workshop will offer needs-based programming reflective of recent and upcoming changes to residency training as implemented by the ACGME and demonstrate solutions to current resident educational requirements. Focus areas will include Faculty Appointments and Promotion in Academic Medicine, Introduction to Curriculum Development, and How to Write a Case Report.*

[1][2] AEROSPACE MEDICINE FACULTY DEVELOPMENT WORKSHOP

Jessica Servey, Gayle Haisher-Rollo
Uniformed Services University of the Health Sciences, Bethesda, MD, United States

(Education - Program/Process Review)

The Accreditation Council for Graduate Medical Education (ACGME) requires faculty members regularly participate in organized clinical discussions, rounds, journal clubs, conferences, and on an annual basis pursue faculty development designed to enhance their skills. Faculty development is intended to describe structured programming developed for the purpose of enhancing transference of knowledge, skill, and behavior from the educator to the learner. This workshop will offer needs-based programming reflective of recent and upcoming changes to residency training as implemented by the ACGME and demonstrate solutions to current resident educational requirements. Focus areas will include Faculty Appointments and Promotion in Academic Medicine, Introduction to Curriculum Development, and How to Write a Case Report.

Learning Objectives

1. Participants will be able to describe the appointment process, ranks, and benefits of pursuing an academic career in aerospace medicine.
2. Participants will be able to describe KERNS six steps for curriculum development and the importance of adhering to the guiding principles when undertaking this assignment
3. Attendees will be able to define the purpose, virtues, and limitations of a case report, the sections contained within, and sources of high quality examples.

Sunday, 05/21/2023 ***8:00 AM***
Rhythms Ballroom I

[S-02]: WORKSHOP: ALTITUDE DECOMPRESSION SICKNESS -- PATHOPHYSIOLOGY, DIAGNOSIS, TREATMENT, AND MITIGATION

Chair: Nathan Maertens
Co-Chair: William Butler

WORKSHOP OVERVIEW: *Altitude-induced decompression sickness (DCS) is an ever-present threat to aircrew. First seriously recognized as an entity around 1917, altitude DCS was not treated with recompression until 1959. Since then, it has been diagnosed and treated regularly within military aviation. This workshop is designed to provide attendees a relatively in-depth knowledge base upon which to diagnose, treat, and mitigate altitude DCS. Foundational presentations will address the history, etiology, pathophysiology, epidemiology, diagnosis, treatment, and efficacy of the USAF treatment algorithm. Additional special presentations will focus on low altitude DCS, epidemic DCS, and mitigation strategies to include the Altitude Decompression Sickness Risk Assessment Computer (ADRAC). Lastly, the workshop will host an expert clinical panel discussing the diagnosis and treatment of a number of challenging altitude DCS cases.*

[3] DCS - A HISTORICAL PERSPECTIVE

Nathan Maertens[1], Dave Johanson[2], Jamie Talley[3]
[1]*U.S. Air Force, Beale AFB, CA, United States;* [2]*Retired, Eglon, WA, United States;* [3]*Embry-Riddle Aeronautical University, Daytona Beach, FL, United States*

(Education - Tutorial/Review)

This session will bring historical perspective to Decompression Sickness (DCS). Presented will be the various findings and theories associated with DCS as our understanding of the ailment progressed through the years. We will journey from Robert Boyle's legendary viper eye bubble, to Paul Bert's *La Pression Barometrique*, to Caisson's Disease during construction of the Eads Bridge in St. Louis and the Brooklyn Bridge in New York City, to JSB Haldane's staged decompression. Discussion will continue with altitude DCS and how it was essentially disregarded until, finally in 1917, Yandell Henderson popularized it. Additionally, recompression treatment for altitude DCS will be introduced with Donnell & Norton's ground-breaking 1960 case report. Of note, particular attention will be paid to basic compartment modeling and the development of risk management through dive tables. Overall, this session will fabricate the foundation upon which the rest of the workshop is built.

Learning Objectives

1. The audience will learn about the evolution of our understanding of DCS.
2. The audience will learn about some of the founding research upon which our current understanding of DCS is based.
3. The audience will learn about basic compartment modeling and the development of dive tables to protect against DCS.

[4] ALTITUDE DECOMPRESSION SICKNESS PHYSIOLOGY

John Harrell
U.S. Air Force, Wright-Patterson AFB, OH, United States

(Education - Tutorial/Review)

This session focuses on the causes, physiological development, and pathophysiology of altitude-induced decompression sickness. The information will include the manifestations and symptomology that aid in the diagnosis of decompression sickness. Lastly, we will explore the epidemiological trends and gender differences of aviation-related decompression sickness.

Learning Objectives

1. The audience will hear a review of the causes, physiological development, and pathophysiology of altitude-induced decompression sickness.
2. The audience will also learn information about the manifestations and symptomology that aid in the diagnosis of decompression sickness.
3. Lastly, the audience see the epidemiological trends and gender differences of aviation-related decompression sickness.

[5] SPECIALTY DECOMPRESSION SICKNESS

William Butler
USAFSAM, Wright-Patterson AFB, OH, United States

(Education - Tutorial/Review)

This session will focus upon two uncommon, yet high profile special instances of decompression sickness (DCS) --- epidemic DCS and low

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altitude DCS. Although most cases of DCS are solitary, occasionally a cluster (i.e., outbreak) of cases is encountered, the so-called epidemic DCS. Epidemic DCS takes two forms: after a single exposure and after multiple exposures over an extended time period. This session will describe the two types of epidemic DCS, how to investigate them, and a methodology (i.e., Haddon Matrix) for implementing control measures. In addition, low altitude DCS will be discussed. Generally, signs and symptoms of DCS following an altitude exposure below 18,000 feet are viewed in askance. However, such cases happen with surprising frequency. A large case series of low altitude DCS will be reviewed, characterizing the altitude exposures, presentations, and treatments. An approach for predicting low altitude risk will be offered as the Altitude DCS Risk Assessment Computer (ADRAC) is not applicable to exposures below 18,000 feet.

Learning Objectives

1. Participants will learn about epidemic decompression sickness to include what it is, how to investigate it, and a methodology (i.e., Haddon Matrix) for implementing control measures.
2. Participants will learn about low altitude decompression sickness to include what it is, how it is characterized, and how to risk-assess for it.

[6] ALTITUDE DECOMPRESSION SICKNESS RISK MITIGATION

Todd Dart
KBR, San Antonio, TX, United States

(Education - Tutorial/Review)

INTRODUCTION: Hypobaric decompression sickness (DCS) is a potential health risk when exposed to barometric pressures less than one-half the pressure at sea level. Aerospace performance and healthcare professionals need to understand how to quantify and mitigate this risk. **TOPIC:** Altitude (or hypobaric) DCS is an illness that follows ambient pressure reduction sufficient to cause formation of bubbles from gases dissolved in body tissues. This can occur in conditions of low pressure such as full or partial aircraft decompression, unpressurized flight or parachuting sorties, and during extravehicular (space suit) activity. This section of the workshop will discuss hypobaric DCS risk mitigation practices. **APPLICATION:** Mission success for hypobaric operations requires DCS risk mitigation planning. The planning process starts with a DCS assessment of the planned hypobaric exposure using the Altitude Decompression Sickness Risk Assessment Computer. Managing the predicted risk requires learning and understanding the implications and limitations of the risk model as it applies to populations versus individuals and judicious application of DCS risk mitigation techniques such as selection of oxygen prebreathe duration, decision on the use of exercise during prebreathe, determining the prebreathe altitude, setting the exposure duration limit, and establishing an acceptable DCS risk level. Application of a DCS risk mitigation may include ensuring compliance with directives and established best practices, setting policy guidance for breaks in prebreathe, first responder DCS treatment procedures, and consideration of mission and environment-specific risk mitigation procedures. When properly applied, risk mitigation plans and techniques prior to hypobaric exposure reduce the occurrence and severity hypobaric DCS. **RESOURCES:** Applicable government instructions and policies will be reviewed. The presentation may use video of hypobaric testing to illustrate presented material.

Learning Objectives

1. Understand the environmental and physiological factors affecting hypobaric decompression sickness risk.
2. Learn procedures that can be undertaken to mitigate hypobaric DCS risk.
3. Learn how to access, use, interpret results, and understand the capabilities and limitations of the Altitude Decompression Sickness Risk Assessment Computer (ADRAC).

[7] ALTITUDE DECOMPRESSION SICKNESS TREATMENT

Gary Toups
Mayo Clinic, Rochester, MN, United States

(Education - Tutorial/Review)

This session will focus on the treatment of altitude decompression sickness (DCS). The US Air Force (USAF) Altitude DCS Treatment Algorithm as well as US Navy protocols will be presented. Primary treatment modalities will be spotlighted --- ground level 100% oxygen, hyperbaric oxygen via Treatment Table 5, and hyperbaric oxygen via Treatment Table 6 --- and contrasted with the primary treatment modality for diving DCS (i.e., US Navy Treatment Table 6). The contrast between treatment regimens will be highlighted by comparing the clinical and operational features of diving and altitude DCS. US Navy treatment tables will be emphasized, but seldom-today-employed USAF treatment tables (essentially modifications to the Navy treatment tables) will also be presented. Other less frequent hyperbaric oxygen treatment modalities, (e.g. USAF Treatment Table 8, Comex 100, Catalina Treatment Table, Hart-Kindwall monoplace no-break treatment table) and adjuvant therapies (e.g., IV fluids, aspirin, lidocaine, anticoagulation, steroids) will be discussed. At the same time, the efficacy of altitude DCS treatment outcomes (95-98% complete recovery) with the USAF DCS treatment algorithm will be discussed and contrasted with the treatment outcomes for diving DCS.

Learning Objectives

1. The participant will be familiar with the most common protocols for treatment of altitude decompression sickness.
2. The participant will be able select an appropriate treatment modality for altitude decompression sickness consistent with patient presentation.
3. The participant will be familiar with adjunctive therapies and patient transport considerations for patients with altitude decompression sickness

[8] CLINICAL CASES — A PANEL DISCUSSION

William Butler
USAFSAM, Wright-Patterson AFB, OH, United States

(Education - Case Study)

This session will pose a number of clinical cases of decompression sickness (DCS) for discussion by a panel of experts. Special attention will be paid to the presentation of the case. Panelists will be asked to discuss their diagnosis of the problem and the treatment modalities they might employ to remedy the situation. Specific treatments for discussion will include ground level 100% oxygen, hyperbaric Treatment Table 5, and hyperbaric Treatment Table 6. Application of these treatments within the framework of the USAF treatment algorithm for altitude DCS will be emphasized. And, lastly, other treatment modalities will be brought to light as needed within the discussions.

Learning Objectives

1. A number of decompression sickness cases will be presented to the participants. Panel experts will review the diagnoses, all within the framework of the USAF treatment algorithm. These reviews will serve as simulations upon which the participants can glean best diagnostic practices.
2. A number of decompression sickness cases will be presented to the participants. Panel experts will review the treatments, all within the framework of the USAF treatment algorithm. These reviews will serve as simulations upon which the participants can glean best treatment practices.

Sunday, 05/21/2023 ***8:00 AM***
Rhythms Ballroom II

[S-03]: WORKSHOP: ESTABLISHING PEER SUPPORT PROGRAMS ACROSS ALL AVIATION SEGMENTS

Chair: Quay Snyder
Co-Chair: Ries Simons

WORKSHOP OVERVIEW: Rationale: *Peer support programs have demonstrated effectiveness in removing barriers for seeking mental*

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health assistance and in improving wellbeing of individuals with less than optimum mental wellness. Aviation regulators have mandated of strongly recommended institution of peer support programs within the aviation industry as a strategy to improve safety and the mental wellness of those involved. Methods: This workshop will inform attendees of methods, programs, and challenges in establishing peer support programs across the aviation industry. Experts from professional commercial airline pilot groups, cabin crew and maintainers, air traffic control services, business aviation, university and ab initio aviation training programs and all inclusive aviation peer support programs will present unique challenges with possible solutions for the establishment of peer support programs within their individual groups. ***Opportunities:*** *The workshop will be interactive with opportunities for attendee participation and breakout sessions for individual groups. Attendees will be able to interact and request individual advice from speakers in small groups.* ***Objectives:*** *The goal of this workshop is to provide attendees tools and templates to assist in establishing peer support programs withing their aviation groups. Ultimately, these Peer support programs will reduce barriers to help seeking, improve mental wellness and enhance aviation safety. Incorporation of mental wellness programs in all aviation groups should be incorporated in an organization's safety management system and its safety culture.*

[9] ESTABLISHING PEER SUPPORT PROGRAMS ACROSS ALL AVIATION SEGMENTS

Quay Snyder[1], Ries Simons[2]
[1]*Aviation Medicine Advisory Service & ALPA Int'l, Centennial, CO, United States;* [2]*Netherlands Organization for Applied Scientific Research (TNO), Soesterberg, Netherlands*

(Education - Tutorial/Review)

RATIONALE: Peer support programs have demonstrated effectiveness in removing barriers for seeking mental health assistance and in improving wellbeing of individuals with less than optimum mental wellness. Aviation regulators have mandated of strongly recommended institution of peer support programs within the aviation industry as a strategy to improve safety and the mental wellness of those involved. **METHODS:** This workshop will inform attendees of methods, programs and challenges in establishing peer support programs across the aviation industry. Experts from professional commercial airline pilot groups, cabin crew and maintainers, air traffic control services, business aviation, university and ab initio aviation training programs and all-inclusive aviation peer support programs will present unique challenges with possible solutions for the establishment of peer support programs within their individual groups. **OPPORTUNITIES:** The workshop will be interactive with opportunities for attendee participation and breakout sessions for individual groups. Attendees will be able to interact and request individual advice from speakers in small groups. **OBJECTIVES:** The goal of this workshop is to provide attendees tools and templates to assist in establishing peer support programs withing their aviation groups. Ultimately, these Peer support programs will reduce barriers to help seeking, improve mental wellness and enhance aviation safety. Incorporation of mental wellness programs in all aviation groups should be incorporated in an organization's safety management system and its safety culture.

Learning Objectives

1. Attendees will understand key elements and challenges in establishing peer support programs in various aviation groups.
2. Attendees will interact individually with experts within their aviation industry group for assistance and advice in establishing peer support programs consistent with their needs and resources.

[10] ELEMENTS OF AN AIRLINE PEER PROGRAM

Ellen Brinks[1], Dave Fielding[2], Quay Snyder[3]
[1]*ALPA Int'l, McLean, VA, United States;* [2]*BALPA, London, United Kingdom;* [3]*Aviation Medicine Advisory Service, Centennial, CO, United States*

(Education - Program/Process Review)

The attendee will learn some of the key objectives in developing a peer program that fits the size, culture and generational age of the airline and pilot group. Communication between different generations and methodology of contacting a peer program will be addressed. As a large group of pilots are retiring or retired due to the Covid pandemic, having resources available to the retiree as well as keeping their knowledge base to help with the education of incoming generations is essential. How to design a peer program structure that effectively supports and trains all pilots through initial, recurrent and continuing education.

Learning Objectives

1. The audience will learn how to collaboratively work to ensure the peer program is supported by all stakeholders.
2. The participant will be able to understand and encourage research for communication and technology between all generations.
3. The participant will be able to understand the support needed to support pilots as they transition to retirement.

[11] THE CRITICAL ROLE OF PEER SELECTION, TRAINING, DEVELOPING AND RETAINING IN ADVANCING WORKFORCE MENTAL HEALTH WELLBEING

Heather Healy
Association of Flight Attendants, Washington, DC, United States

(Education - Program/Process Review)

Today, peer assistance programs are being recognized as a valuable tool in supporting the mental well-being of the workforce they serve and enhancing the safety of that industry. Trained peers are the engine of a cabin crew peer assistance program. They identify, reach out to and assist struggling flying partners in addition to attending to their own professional and personal commitments. Not everyone is a good fit to be a peer. In addition to peer selection, other critical elements of program effectiveness include training, developing and retaining these volunteers This presentation will provide an overview of the many challenges inherent in managing any network of peer assistance volunteers and the strategies that the Association of Flight Attendants has developed to address many of them over its four decades of operation.

Learning Objectives

1. The audience will learn about and reflect on the many challenges inherent in managing a network of peer volunteers that support mental health well being in the workplace.
2. The audience will learn about program policies and practices to overcome these identified challenges in managing a peer support network.
3. The audience will come to appreciate the value and role of peer support in enhancing workforce mental health and industry safety.

[12] PEER SUPPORT PROGRAMS AND THE AIR TRAFFIC CONTROL WORKFORCE

Andrew LeBovidge
National Air Traffic Controllers Association, Washington, DC, United States

(Education - Tutorial/Review)

INTRODUCTION: As the establishment of Peer Support Programs are gaining traction in the aviation community as an effective method to address the mental wellbeing individuals performing critical safety work, there are segments of the industry which have not yet been incorporated into these initiatives. **CHALLENGE:** Air Traffic Control Specialists (ATCOs) represent a significant body of that universe and do not have a viable PSP. **CONCLUSION:** Further discussions need to occur on whether PSP are suitable for this community, and, if so, what actions would need to been undertaken to establish such programs. Conversations require open dialogue, trust, and commitment from employers, regulators, and trade

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unions and any outcomes must be developed and implemented in a fully collaborative manner.

Learning Objectives

1. The current status of Peer Support Programs for the air traffic control workforce in the United States.
2. Current efforts to evaluate the viability of PSP for ATC in the United States.

[13] PEER SUPPORT PROGRAM CHALLENGES FOR BUSINESS AVIATION

Mark Larsen[1], Quay Snyder[2]
[1]*National Business Aviation Association, Washington, DC, United States;* [2]*Aviation Medicine Advisory Service, Centennial, CO, United States*

(Education - Tutorial/Review)

INTRODUCTION: Business aviation organizations often face unique challenges from those of larger airlines when setting up peer support programs. **TOPIC:** Business aviation organizations come in all types and sizes. Most business aviation organizations have one aircraft, and only 1-3 pilots, often depending on the number of pilots legally required for flight and the total annual hours expected to be flown. Larger Part 91 flight departments may have roughly 50 employees, though these organizations often feel resource-constrained for the multiple aircraft they fly. Only a few large business aviation charter management and fractional ownership programs employ numbers of people akin to the airlines with internal peer support programs that are viable. One constant among business aviation organizations is that their pilots, maintainers, flight attendants, schedulers/dispatchers, and managers can all benefit from access to peer support, just as these employee groups within airlines benefit from their own peer support programs. Aggregating the resources of business aviation organizations to provide peer support could be one way to provide this critical mental wellness tool to more business aviation organizations than possible with internal programs. **APPLICATION:** Business aviation organizations can benefit from peer support programs and it is up to the industry to innovate existing peer support models to normalize mental wellness in aviation, remove barriers to seeking help, and provide for enhanced mental health within the business aviation sector.

Learning Objectives

1. Attendees will learn about the organizational differences between common business aviation operations and scheduled airline operators, relative to peer support programs.
2. Attendees will learn about possible ways that business aviation organizations could viably implement peer support programs to support mental wellness among their employees.

[14] IMPLEMENTING A PEER SUPPORT PROGAM IN A COLLEGIATE AVIATION FLIGHT TRAINING PROGRAM

Elizabeth Bjerke, Kaylee Trottier, Ryan Peene, Mark Volk Porter
University of North Dakota, Grand Forks, ND, United States

(Education - Tutorial/Review)

INTRODUCTION: While peer support programs have become engrained in many air carriers around the world, the concept is relatively new in the flight training environment. Due to an increase in anxiety and depression brought on by the impact of the COVID-19 pandemic, universities began to explore new ways to better serve the students' rising mental health concerns. After connecting with a number of airlines about the positive impact of peer support programs the concept to adapt this program into the collegiate aviation environment began. **IDENTIFIED CHALLENGES:** The process of implementing a new peer support program needs to be championed by the peers themselves, so the first challenge was selecting the group of student peer volunteers and ensuring that they received proper training. One challenge will be the constant turnover of peer supporters as they progress in their studies and graduate from the university. Another challenge is ensuring that the peers are well supported by a mental health expert. The last challenge identified was finding a proper modality in which to connect student pilots to a peer supporter, as the next generation of pilots do not communicate in the same ways as older generations. **CURRENT EFFORTS:** The University of North Dakota launched UpLift in the Fall of 2022 with 15 student peer supporters and an embedded psychologist offering support for the program. While the program is still very new, a lot has been learned and adapted throughout the past year. **CONCLUSION:** Peer Support Programs have proven to be an effective intermediary for pilots seeking help in the air carrier arena that will also be impactful earlier in a pilots training. We hope to share what has been learned in our program in order to help other flight training organizations implement similar programs.

Learning Objectives

1. The audience will learn about the current efforts to establish a peer support program for student pilots in a flight training environment.
2. The audience will understand the challenges faced while implementing a peer support program, as well as the current efforts underway.

[15] AVIATION MENTAL HEALTH; IT'S NOT JUST ABOUT AIRLINE PILOTS DUMMY!

Herwin Bongers
Massey University, Palmerston North, New Zealand

(Education - Program/Process Review)

BACKGROUND: The aviation system is one of complexity with many influencing components but invariably there is a human at the end of every process preventing accidents as the last line of defence. The mental health of airline pilots has become a focus after high profile tragedies, but when taking a whole safety-of-flight approach, the mental health of all personnel who operate in the aviation system is of paramount importance. The true threat that occurrences of impaired mental wellness have upon aviation safety is the associated correlation to workplace errors. **OVERVIEW:** Through the experience of establishing an aviation peer support program unique in its provision of nationwide cover to all aviation medical license holders as an industry wide wrap-around support network, an opportunity exists to share learnings. By offering a tiered system where different levels of provided assistance is available and looking to protect any gaps from the time a pilot or air traffic controller starts training until the time they retire, ensures all aviation personnel can be responded to and thus normalizing the act of assistance seeking when wellness is impaired. **DISCUSSION:** The Maori of New Zealand weave cloaks (Korowai) for protection during inclement times. Seeking to weave the strengths of collegial, well trained, evidence based methods for assistance in times of impaired wellness provides the benefits of a trustworthy, reliable and robust peer support network. If only provided to airline pilots, the weave of the Korowai protecting the collective mental health of the aviation system is fundamentally threadbare and distinctly compromised in its effectiveness. Offering nationwide assistance to all pilots and air traffic controllers throughout a career "cradle to grave", realizes a more comprehensive aviation system safety cloak (Korowai). Utilizing the skills of trained volunteers for all cases and providing free escalation to a mental health expert for those personnel who work for organizations that fund the program allows scope for anyone to feel unencumbered when seeking assistance.

Learning Objectives

1. To convey the key learnings of success and pitfalls to avoid in the provision of a comprehensive aviation peer support program across the whole aviation system.
2. Accentuate the need to discuss aviation mental health in an operational error management context.

[16] REGULATOR PERSPECTIVES ON MENTAL HEALTH AND WELLBEING SUPPORT FOR MEDICAL CERTIFICATION

Kate Manderson[1], Susan Northrup[2], Cristian Panait[3]
[1]*CASA Australia, Phillip, Australia;* [2]*FAA, Washington, DC, United States;* [3]*EASA, Cologne, Germany*

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(Education - Program/Process Review)

BACKGROUND: "There is no health without mental health". As our industry emerges from one of the most disruptive periods in our history it has never been more important for us to acknowledge this truth. Regulators play a key role in supporting industry to respond to this issue effectively. **OVERVIEW:** Acknowledgement of mental illness and asking for support with mental wellbeing continues to be associated with deeply embedded cultural stigma. Despite the aviation industry's awareness about human factors in performance and safety, we still need to navigate these barriers both for the people in our industry and for the systems with which it is regulated. "It is better to prevent than to treat". Several regulators are taking a best-practice preventive approach with the use of support groups and peer programs to facilitate the management of risk factors, and to prevent their evolution into established mental illness. Support groups and industry peer supporters can be a valuable layer in mental wellbeing and illness prevention and therapy. Their involvement could motivate licence holders to complete their treatments and return to flying duties. **DISCUSSION:** The future of aviation medical certification for mental health and wellbeing will ultimately be aligned with certification for other human conditions that impact function and performance such as fatigue. Compared with diseases like heart disease or diabetes, where there are well established and reliable diagnostic tests, mental wellbeing is difficult to quantify. However, we must strive to apply scientific method to the prevention, assessment and management of mental health issues. This panel will discuss: strategies to overcome barriers to diagnosis and declaration; approaches to working with workplace and industry for risk assessment; models for mental wellbeing, illness prevention and management in the aviation industry; and opportunities for research and scientific endeavours in aviation mental health. There remains a considerable body of work for regulators and industry to achieve the goal of accepting mental wellbeing as part of the normal human continuum. We can approach this task with optimism now that awareness of the issues has been firmly established in the aeromedical and aviation industry.

Learning Objectives

1. The audience will learn about the salutogenic approach to mental wellbeing, health and illness.
2. Participants will have greater awareness of how peer support workers and programs can support mental wellbeing in the aviation industry.
3. The audience will learn about approaches that regulators and airlines can use in prevention of mental illness as a part of better medical certification process.

[17] EXPAND RISK ASSESSMENTS TO INCLUDE PSYCHOSOCIAL RISKS AND INCLUDE AN INTEGRATED HEALTH AND SAFETY PROGRAM AS PART OF SMS

David Schroeder
Retired, Oklahoma City, OK, United States

(Education - Program/Process Review)

RATIONALE: Data from the U.S., the UK, and other countries has consistently demonstrated that the most widespread hazard in the workplace is stress. Cooper (2000) provides a dynamic illustration of how psychosocial stressors in the workplace impact individual health, the organization and overall well-being. If unresolved, they can lead to poor health and lowered work performance. **DISCUSSION:** Cooper (2008) in commenting on the Black report indicates that this "requires a changed perception of health and well-being and a willingness from both employers and employees to invest resources and change behaviours." This presentation will demonstrate how psychosocial stressors in the workplace impact the safety culture in an organization by creating job strain and burnout which leads to lowered employee engagement, workplace compliance, and lowered perfromance. The literature clear illustrates how the interaction of job demands and resources can produce burnout in pilots, flight attendants, and maintenance personnel and impact their performance and safety. Recent integrated health and safety programs (Harvard's Safety Well, NASA's Integrated Employee Health Program and NIOSH's Total Worker Health program) provide sufficient evidence that health or well-being needs to be integrated with efforts to improve safety in the workplace. Those efforts include individual initiatives as well as organizational support for stress management, peer support groups and other interventions designed to support individuals and reduce the presence of psychosocial stressors in the workplace. **RECOMMENDATION:** The AsMA Aerospace Mental Health Work group has recommended that organizational Safety Management Systems (SMSs) have an integrated program that addresses both psychosocial risks as well as safety risks. In addition to existing efforts to reduce safety risks, efforts are needed to reduce the psychosocial risks and include the introduction of interventions (lifestyle, stress management, peer support) for individuals and the organization to improve employee health, safety, and wellbeing.

Learning Objectives

1. Be able to identify three of the more prominent psychosocial stressors within aviation workplaces.
2. Understand basic principles involved in an organization with an integrated health and safety program.

MONDAY, MAY 22, 2023

Monday, 05/22/2023 ***8:00 AM***
Grand Ballroom A-E

OPENING CEREMONIES AND 68TH LOUIS H. BAUER LECTURE

Chris Rocheleau, B.A., M.P.A.

"International Aviation & COVID-19: Response and Recovery"

Monday, 05/22/2023 ***10:30 AM***
Grand Ballroom A-B-C

[S-04]: PANEL: GOVERNMENTAL INTERAGENCY AND COMMERCIAL COLLABORATIVE APPROACH TO HUMAN SPACE FLIGHT MEDICAL SUPPORT

Chair: Melissa Runge

PANEL OVERVIEW: *This panel presents a multi-agency effort to launch and recover the Space X Crew Dragon 4. The collaboration starts with training aerospace medicine experts who care for astronauts or lead rescue and recovery operations and results in synergistic capabilities between NASA, the Department of Defense (DoD) and SpaceX to accelerate our nation's human spaceflight program. US Space Command will review the DOD's role in Human Space Flight support, how we are organized, the planning process, and finally cover the role of the USSPACECOM Command Surgeon in medical operations. NASA looks at how crew surgeons prepared for the Commercial Crew mission with SpaceX and through emergency simulation, prepared their flight surgeons for a coordinated response supported by the DoD. A presentation by SpaceX describes the coordination required to work with and train DoD assets for rescue and internal resources used for nominal recovery. From 1st Air Force, Detachment 3, the DoD's Human Space Flight Support office, they describe the preparation and hands-on training required to ensure ready forces for Joint Service rescue operations and the DoD Surgeon's role to lead a collaboration for*

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