for their own jurisdictions and standards differ both within and between jurisdictions. Formerly in Europe, aeromedical standards were more prescriptive, now they are more risk based and open to interpretation. Pilots frequently change competent authority and jurisdiction; this presents a challenge to medical assessors. Due to recent adverse events, more aspects of pilot medical assessments are becoming mandatory including formal psychological assessment, drug and alcohol testing and peer support for both pilots and aeromedical examiners. There is also a drive to include health promotion and preventative medicine as an integral part of routine medical examinations for pilots. This has been strikingly absent to date as the routine medicals focus on a 'pass/fail' system. As with any change in aeromedicine, a way that is acceptable to all involved is being established currently. Regulatory aeromedicine is truly international largely due to the 'client' base and the many medical services and regulators they encounter around the world in the course of their careers. For these very reasons, it is also an exciting field to work in.

In March 2015 another 'unthinkable' happened in aviation with the Germanwings disaster. The world was shocked as events unfurled, and for commercial aviation the tragic situation had to be risk assessed with speed. Individual airlines considered their own risk assessment and the European Aviation Safety Agency, EASA, set up a Task Force in May 2015, their report being published in July 2015. The Task Force made the following 6 recommendations:

1. The principle of 'two persons in the cockpit at all time' should be maintained.
2. Pilots should undergo a psychological evaluation before entering airline service.
3. Airlines should run a random drugs and alcohol programme.
4. Robust programme for oversight of aeromedical examiners should be established.
5. A European aeromedical data repository should be created.
6. Pilot support systems should be implemented within airlines.

The French accident investigation report (BEA) was also published with its own recommendations. Such detailed analysis of all aircraft accidents is required to help improve flight safety and recommendations often follow, some more controversial than others. This presentation will review some of the recommendations in detail discussing the implications, implementation, and benefits to flight safety.

1640 HYPERBARIC MEDICINE (DEALING WITH EMPLOYEES WHO WORK UNDER PHYSICAL PRESSURE)

AJ Bray*. *SWIMS Ltd, Solihull, UK*

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Aim of special session Using 3 related employment scenarios to explore the increasing challenges to employees working under pressure and their medical attendants.

Presenters: M. Gonevski[1], W. Robertson[2], A. Heili[3]

[1]Midlands Diving Chamber, Rugby, UK

[2]Independent Occupational Physician, Yorkshire, England

[3]Hyperbaric Tunnelling and Medical Services- Romford, UK

Description of content The scope of the working community who toil under increased physical pressure will be collectively addressed in this interactive workshop. New equipment, techniques and operating protocol will be debated to focus the delegates on scientific evidence and recent accident data.

The individual topics are inter-related and cover the breadth of the working practices of tunnelling, diving and hyperbaric chamber activities. The speakers will cover tunnelling technology, medical criteria for chamber staff and the threatening use of bizarre and dangerous diving breathing systems.

Following a brief historical analysis the individual presenters with provide updating material to set the scene and aid participation in constructive dialogue.

1640a QUALIFICATION AND REQUIREMENTS FOR HYPERBARIC CHAMBER FACILITY PERSONNEL

M Gonevski. *Midlands Diving Chamber, Rugby, UK*

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The range of personnel involved in hyperbaric chamber operations requires a specific set of skills. There are minimum requirements for all key level positions with regards to training, experience and medical fitness and these are discussed in detail. The appropriate staff numbers and their qualifications depend on the combination of patient numbers and needs, chamber type and features, as well as the use of medical and other equipment. For a standard multi-place chamber the minimum complement must comprise of a hyperbaric physician on-site, a minimum of one qualified attendant available inside and one outside the chamber, as well as a hyperbaric technical officer. Depending on the type of patients being treated, there may be a necessity for an intensive care trained nurse as hyperbaric attendant. The qualifications and responsibilities can overlap between the hyperbaric facility personnel. The training requirements are also very specific. The Hyperbaric Physician must have knowledge, training and experience in the diagnosis, treatment and assessment of individuals in whom hyperbaric oxygen therapy is contemplated. He is medically accountable for the safety of patients and staff involved in the treatment. This requires knowledge of the indications, contraindications, side effects and complications of therapy, as well as provisions of an environment to safely treat patients. The Hyperbaric Attendant must be a nurse or a diving medical technician with emergency medical training. They must possess both theoretical and practical knowledge and competencies. This is achieved through successful completion of a training course that covers specific relevant curriculum. Before any medical personnel can enter hyperbaric environment they must be certified as medically fit to undergo pressurisation. The person's fitness is determined through a medical examination that comprises of a detailed medical questionnaire and a medical examination conducted by a medical practitioner appropriately trained in hyperbaric and diving medicine.

1640b HOOKA DIVING SYSTEMS

W Robertson. *Independent Occupational Physician, Yorkshire, UK*

10.1136/oemed-2018-ICOHabstracts.1065

Diving is an incredibly common activity both in the recreational and commercial domain. Despite being an activity where a human is submerged in an unnatural and constantly changing environment, diving is normally a very safe activity if appropriate training, operating protocols and equipment is used. Serious incidents in diving have been reported as occurring in between 1/10 000, and 1/20 00 dives, with a fatality seen between 1/95000 and 1/200000. Commercial diving is regulated in the UK by the 'Diving at Work' Regulations (1995) and monitored by the Health and Safety Executive. However, diving has changed dramatically over the years, with new equipment and techniques deployed all the time. Whilst some of this equipment is advantageous (e.g. Wi-Fi enabled dive computers), some has been less so, such as 'build your own Hookah' dive sets. This cheap but bizarre breathing systems, and resulting accidents associated with them in the occupational diving will be explored. Often the Hooka diver does not carry an accessory air source and regulator and the results of an impaired primary air supply precipitate a crisis often in remote and poorly supported working environments. Despite the harvested material from the water being usually sold at high prices to the consumer more and more the diver's remuneration is pitiful and the latter are seeking cheaper ways to work underwater. The Hooka system does not rely on complex equipment but is fraught with danger. Figures from the Royal Hobart Hospital show even excluding cases of carbon monoxide poisoning divers using these systems account for 30% of the overall hyperbaric treatments for divers. Recent fatal cases along with increasing chamber treatments will be discussed.

1640c THE OCCUPATIONAL IMPACT OF THE BROAD PRACTICES OF MODERN TUNNELLING

A Heili. *Hyperbaric Tunnelling and Medical Services- Romford, UK*

10.1136/oemed-2018-ICOHabstracts.1066

The term 'caisson disease' has generally been replaced by dysbaric illness or decompression sickness (DCS) which represent the spectrum of potential problems experienced by those working under unusual pressure. The design and construction of tunnel boring machines (TBMs) are governed not only by soil conditions but now should cater for working at increased pressure and depth. In the right circumstances these machines have reduced not only the intense physical burden on the 'miners' but also limited pressure exposure to interventions into the excavation chamber for inspection and maintenance. Previously to limit ingress of water into the tunnel the whole underground site was kept at pressures above atmospheric. Ground conditions will determine the need for earth pressure balanced or slurry machines. Maintenance on the TBM's cutter head and tools require hyperbaric conditions in the excavation chamber when pressures can exceed 3.5 bar. Deeper tunnelling uses tables and worker surveillance like those used for saturation diving. Breathing mixture is a non-air respirable mixture, such as oxygen and nitrogen (nitrox); oxygen and helium (heliox) or oxygen, nitrogen and helium (trimix) capable of supporting human life under appropriate hyperbaric conditions. Using examples within Egypt, North America and Europe the operational challenges will be expanded with reference to the practical aspects of safe transfer under pressure. Compressed air worker (CAW) is defined as a person certified medically fit for working in compressed air. Aspects of discussions on high pressure compressed air (HPCA) working by British Tunnelling Society Compressed Air Working Group and the International Tunnelling Association (ITA) will be highlighted. Future developments are likely to attempt to reduce worker exposures to higher pressures by mechanising cutter tool changing.

1679 THE GLOBAL DRIVE TO TACKLE OCCUPATIONAL CANCER

S Frost. *Institution of Occupational Safety and Health (IOSH)*

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Introduction This session focuses on the impact of a far-reaching campaign to tackle work-related exposures to carcinogens – and examines what now needs to be done to cut instances of occupational cancer.

Methods Launched by IOSH in 2014, No Time to Lose has raised awareness and understanding of work-related exposure to carcinogens, and helped organisations take action. The campaign has offered free, practical materials for businesses to deliver effective prevention programmes for solar radiation, diesel exhaust emissions and silica dust.

To maximise its impact, IOSH has encouraged organisations to sign the campaign pledge, outlining what they will undertake to manage carcinogenic exposures.

Results Since its launch, the campaign has reached more than 66 million people worldwide through media coverage. More than 200 organisations have formally supported it, with another 100-plus businesses signing up to the pledge. The campaign website has had 2 07 000 visits, with the free resources downloaded 71 000 times.

No Time to Lose has been presented at 139 events around the world, in countries including Bulgaria, Cyprus, Egypt and Ireland.

And in November 2016, IOSH, industry leaders, academics and safety and health experts agreed *'Tackling respirable crystalline silica together: a cross-industry commitment'*, a cross-sector plan of action to reduce exposures to this hazardous substance.

Discussion No Time to Lose has raised awareness and understanding of occupational cancer, but carcinogenic exposure remains a widespread threat – an estimated 7 42 000 people die annually from occupational cancer, according to research findings published in 2017.

There are barriers to progress, such as the long latency period between the disease's contraction and symptoms, and attitudinal issues prevalent in male-dominated industries.

This session will be a platform for discussing a global, cross-sector approach to tackling occupational cancer, and explore what delegates can do to promote awareness and help manage its risks among their communities and networks.

1706 MILITARY MEDICINE

Anthony M Corcoran*. *Medical Branch Defence Forces Ireland, Dublin, Ireland*

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Aim of special session Outline the development of the Military Medicine specialty, and describe the Irish Naval Service experience of the refugee crisis operations.