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### In-flight Medical Emergencies (IFME)

J. Hinkelbein

*Department of Anesthesiology and Intensive Care Medicine,  
University Hospital of Cologne, Germany;  
jochen.hinkelbein@uk-koeln.de*

In 2017, commercial air transportation was used by approximately 4 billion travellers. The International Air Transport Association (IATA) has predicted this number to increase by 2.7% annually until 2034. Medical emergencies frequently occur in commercial airline flights, but valid data on causes and consequences are rare. In commercial aviation, one in 14,000 to 50,000 passengers experiences acute medical problems during their flight (in-flight medical emergencies, IFME). Therefore, optimal extent of on-board emergency medical equipment remains largely unknown. Whereas a minimum standard is defined in regulations, additional material is not standardized and may vary significantly between airlines. Although high quality data on the number, incidence, and type of medical emergencies on board commercial aircrafts is sparse, cardiac arrests during air travel may account for 0.3% of all IFME. The reported mortality is high, at 86%. In an effort to improve this outcome, the German Society for Aviation and Space Medicine (Deutsche Gesellschaft für Luft- und Raumfahrtmedizin)

has recently developed and published a guideline for cardiac arrests occurring on-board commercial aircrafts. These guideline provides 28 recommendations to improve detection and management of in-flight cardiac arrests.

### Promoting health by traveling: Mindfulness and travel medicine

N. Kohls

*Hochschule Coburg, Germany*

Traveling and taking a journey can be considered as cultural-anthropological phenomena that are undertaken for a variety of purposes such as pleasure, education, business, religious or medical reasons. Additionally, the process of traveling may also be metaphorically interpreted for complex intentional processes aiming at a achieving a certain goal such as a lifetime achievement. However, the reasons, justifications and ideas associated with travelling may differ considerably as they are not only highly person- but also context-dependent. Thus, varying circumstances may have a huge impact on traveling as can be derived from the current Corona crisis. However, from the viewpoint of health promotion and self regulation theory, traveling may be functionally understood as a process allowing an individual to decontextualize from

the natural habitat thereby adopting, adjusting and habituating to a new context on a physical, psychological, immunological and perhaps also spiritual level. Hence, traveling may be considered a way to enhance self-regulation and adaptation competencies. As traveling can be considered as a voluntary induced transition process, the state of mindfulness with its two subfacets predominate being present in the moment and accepting without judging might be beneficial for taking more salutogenetic advantage from traveling. Correspondingly, travel medicine as a scientific branch of medicine might be considered not only as a preventive endeavor aiming at reducing risk factors associated with traveling but actually also as an important health promotion strategy, if conducted mindfully. Thus, travel medicine should look into options to harness the advantages of mindfulness in a systematic way.

## Pandemias – are we really prepared?

Th. Küpper

*Department of Occupational & Social Medicine, RWTH Aachen Technical University, Aachen, Germany*

Never before so drastic procedures were done especially to save the elderly people who are the specific risk group, never before a new disease has been investigated so fast and now it is just a question of time – some months – and we will have a vaccination available. Statistics proved in June 2020 that by all the preventive procedures 3.1 million fatal outcomes were avoided in 11 European countries.

However, several topics could have done much better: It is not acceptable that a pandemic strategy was handed to the German government in 2009 and 4 ministers for health did never look at it. An epidemic follows exponential function when there is no vaccination or therapy – why did the government need more than 21 days to suggest procedures for the population which were realized initially by some companies or why did the Robert Koch Institute need 9 days to publish its “upgrade” of the risk? The same for the Governmental Body for Occupational Health and Safety (BAuA) which needed 13 days to communicate that the virus fulfilled risk category 3? These wasted days are very valuable in a pandemic situation! In numerous situations there was obviously a lack of coordination between the governmental bodies. And at April 4th the population of Berlin was asked to donate plastic sheets and disposable raincoats to enable the government to provide protective equipment to medical personnel – the last time we had such a situation was in World War II.

The lecture gives an overview about the most important topic which should provide a better preparation, more safety for the population and less fatal outcomes for the victims in the next pandemic, which will definitively come.

## Fatalities during recreational alpine skiing: A 10-year analysis from the Austrian Alps

M. Posch, G. Ruedl

*Department of Sport Science, University of Innsbruck, Austria*

**Introduction:** Recreational alpine skiing is practised by several millions of people worldwide [1] and has gained increasing popularity during the last three decades [2]. In addition to non-fatal skiing-related injuries, alpski fatalities occur on ski slopes and a distinction is made between traumatic (e.g., collision with an object/person) and nontraumatic deaths (e.g., cardiac death) [3]. Therefore, it is important to evaluate incidences, risk factors and circumstances of fatalities to further develop preventive measures.

**Methods:** Data based on routine documentations of the Austrian Alpine Police between the 2008/09 and 2017/18 winter seasons.

**Results:** An average of  $36.9 \pm 7.9$  fatalities per year were registered within the 10-year analysis on Austrian ski slopes. The evaluated mean incidence during this period was 0.70 deaths per million skier days, with an incidence of 0.36 traumatic deaths and 0.34 nontraumatic deaths per million skier days. Regarding the 10-year study period, incidence of traumatic deaths decreased by more than 25%, while the incidence of nontraumatic deaths decreased by 40%. More than 50% of traumatic deaths were due to collisions with other skiers and solid objects, whereas a sudden cardiac death caused the majority of nontraumatic deaths. Generally, most fatalities occurred in males (87%).

**Conclusions:** The underlying findings suppose deaths on ski slopes are rare events, but incidences of traumatic and nontraumatic deaths should not be underestimated, as recreational alpine skiing represent one of the most popular winter sports worldwide. Based on currently available evidence, recreational alpine skiing can provide health-related benefits when performed regularly [4].

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## Diabetes and driving ability

K. Rinnert

*Department of Occupational Medicine of the Government of Cologne, Germany*

Digitization in modern diabetology necessarily leads to a new risk assessment regarding to the driving ability. According to the biopsychosocial model of the World Health Organization (WHO), the context factors that enable or hinder participation in life should also be considered. To avoid discrimination against people with diabetes and to simplify procedures, adjustments are required in parts of the driving license regulation.

## Travel medicine news

R. Steffen

*Department of Public and Global Health, Division of Infectious Diseases, World Health Organization Collaborating Centre for Traveller's Health, Epidemiology, Biostatistics and Prevention Institute, University of Zurich, Zurich, Switzerland*

*Division of Epidemiology, Human Genetics and Environmental Sciences, University of Texas School of Public Health, Houston, TX, U.S.A.*

Since 2,500 papers have been published relating to travel in the past 12 months we need to focus:

Relating to travelers' diarrhea many studies illustrate that PCR panels may detect multiple pathogens, but these are often not associated with symptoms – thus such evaluations are not recommended for routine. Rifamycin– virtually non-absorbed antibiotic – has been introduced as a novel therapeutic agent.

On the horizon there are several vaccines of interest for future travelers, including such against chikungunya and dengue. The simpler rabies pre-exposure prophylaxis with just two visits on days 0 and 7 has been implemented e.g. in Belgium. This resulted in far better acceptance by the public and vaccine shortage. Despite some basic knowledge about rabies the travelers show an alarmingly inadequate behavior after potential exposure. Some 500 patients consult a GeoSentinel clinic annually as compared to 40 with typhoid fever and 20 with hepatitis A. Thus we should reconsider the vaccine priorities in pre-travel counseling.

Several papers have presented additional evidence on the risks associated with pregnancy in travelers. While the data generated with atovaquone/proguanil in pregnant travelers are insufficient to recommend this drug, most vaccines are safe.

As a result of the COVID-19 pandemic the practice of travel medicine has and will continue to change. Hopefully SARS-CoV-2 vaccines will be available soon, but the cold-chain and effectiveness may result in problems. We will be unable to offer “zero risk travel”. Besides standard recommendations, we may need to primarily recommend influenza immunization, and to give detailed advice on destinations.