

# Monday, 18 June 2018

## Opening Keynote

### **The Neglected Surgical Patient and the G4 Alliance**

*Ruben Ayala, MD (USA)*

This session will explore the current status and challenges of access to surgery and anesthesia care on the global level and discuss current efforts to improve access to care. The Global Alliance for Surgical, Obstetric, Trauma, and Anesthesia Care (The G4 Alliance) is an advocacy-based organization dedicated to building political priority for surgical care as part of the global health and development agenda. Founded in 2014 and consisting of over 90 membership organizations, the Alliance provides a collective voice for Member Organizations united in their commitment to supporting increased access to safe, essential surgical, obstetric, trauma, and anaesthesia care for all. Surgical, obstetric, trauma, and anaesthesia care have a crucial role to play in achieving universal health coverage and in fulfilling the United Nations' post-2015 Sustainable Development Goals, especially for the most marginalized and vulnerable populations. Globally, as many as five billion people lack access to safe and affordable surgical care and anaesthesia, with only 6.3 per cent of all operations being delivered to the world's poorest countries, which represent over 70 per cent of the global population. Marginalized people continue to suffer due to a lack of trained health care providers, inadequate infrastructure, disproportionate out-of-pocket healthcare costs, and a lack of prioritization of surgical, obstetric, trauma, and anaesthesia care as part of national health plans. In response to these needs, The IFNA is proud to be an active member of The G4 Alliance, working with all member organization in our commitment to a shared mission of promoting access to quality surgical, obstetric, trauma and anaesthesia care as part of health systems strengthening and universal health coverage.

## Anesthesia Specialities

### **The challenge of neuromuscular diseases in anesthesia**

*Gunilla Islander, MD, PhD (Sweden)*

Skeletal muscles are “powerful” and have a complex metabolism. Inherited muscle disease can cause many problems during and after anaesthesia, often coming as a surprise. There is an increased risk for potentially life threatening anesthesia complications among several diagnostic groups of neuromuscular diseases. Obstetric anesthesia can be challenging. Anesthetic complications can be the first symptom of the disease.

Examples of adverse reactions; malignant hyperthermia reactions, respiratory depression induced by small doses of opioid in patient with myotonic dystrophy, hyperkalaemic cardiac arrest in Duchenne boys, magnesium induced muscle weakness caused by MgSO<sub>4</sub> in obstetric patients. Whenever possible, it is important to identify patients at risk in order to minimize anesthetic risk. Knowledge and vigilance are important factors for good outcomes.

### **Measuring Relaxation during anesthesia, the latest information**

*Bart Torensma, CRNA, MSc, PhD (The Netherlands)*

1. Epidemiological and clinical figures related to muscle relaxation
2. 2. Monitoring of muscle relaxation
3. The use of muscle relaxation: recent development

## **Nurse anesthetists' scope of practice in prehospital emergency care**

*Lars Egger, MME Unibe, RNA (Switzerland)*

Nurse anesthetists' competencies in critical and emergency care provide crucial resources in the prehospital emergency care setting. This speech aims to contribute a general understanding what an interprofessional emergency care framework can and should look like to provide patient centred care. The benefits of the role of nurse anesthetists in the prehospital setting will be addressed specifically under the focus of quality of care, patient safety, interprofessional relations, collaboration and leadership. During the speech we will explore and introduce crucial factors for high quality prehospital emergency care. According characteristic factors of a successful prehospital emergency care system will be presented. The presentation will...

- analyze and illustrate anesthesia experts' scope of practice by working collaboratively across prehospital and clinical settings
- outline anesthesia experts' role in effective leadership and consultancy
- explain influences of health-, educational- and socio-economic policies on safe emergency care from an international, national and local perspective

Sharing experiences from Switzerland's prehospital care setting, the speaker will outline the role of nurse anesthetists and key factors of success to maintain high quality care for critically ill patients in rural and urban areas of Switzerland. International standards and recommendations have to be taken in account, when discussing and advancing emergency care. The speech will close with general considerations and conclusions for nurse anesthetists' being involved in the prehospital field to saving lives.

## **Sugammadex**

*Hanna Illman, MD, PhD (Finland)*

Sugammadex is a tailor made reversal agent that encapsulates and inactivates neuromuscular blocking agents rocuronium and vecuronium in the plasma. This presentation describes the mechanism of action of sugammadex with comparison to traditional reversal agents. Furthermore the presentation highlights the possibilities for sustaining a deep level of NMB until the very end of a procedure without running the risk of residual blockade or delayed extubation.

## **Difficult Airway Management**

### **Malpositioning of Supraglottic Airway Devices**

*André van Zundert, MD, PhD, FRCA, EDRA, FANZCA (Australia)*

Supraglottic airway devices (SADs) are very popular devices in airway management and are considered easy-to-insert devices. Nevertheless 50 to 80% of blind-inserted SADs are malpositioned (epiglottis downfolding or folding double, obstructing the airway; tip distal cuff folding over backwards; distal cuff not blocking the entrance to the oesophagus contributing to aspiration risks; foldings in the proximal cuff resulting in leakage; the distal cuff positioned across the vocal cords with massive air leaks; the rim of the proximal cuff not aligned with the tip of the epiglottis). A vision-guided insertion technique combines the SAD insertion using videolaryngoscopy. A detect-and-correct-as-you-go technique is used, which finally results in an optimal position of the SAD. The ideal situation is that a) the epiglottis rests on the outside of the proximal cuff; b) the tip of the epiglottis is aligned with the proximal cuff; c) that the inflated cuff seals off the entrance to the glottis (first seal); d) that the tip of the SAD blocks the entrance to the oesophagus (second seal); e) that silicone cuffs are preferred over PVC cuffed SADs; f) the use of a correct size of an SAD can be verified using videolaryngoscopy. However, not all videolaryngoscopes are suitable. We believe Macintosh blade

videolaryngoscopes provides the most room next to the blade to insert the SAD. Channeled videolaryngoscopes are not useful tools to help guiding SADs in the correct position.

### **Virtual Endoscopy - a new tool in difficult airway assessment?**

*Imran Ahmad, MD, FRCA (United Kingdom)*

There have been many advances in airway devices over the past 30 years with the development of supraglottic airways, videolaryngoscopes, optical stylets and fibrescopes. There have also been many developments in airway management techniques with the introduction of airway guidelines, apnoea oxygenation techniques and human factors training.

One area of airway management that has not seen many advances is airway assessment. There is accumulating published evidence that our assessment and predictions of difficult airway using the current techniques and tools is poor and many difficult intubations are still unanticipated. I will present as new airway assessment tool for patients with airway pathology called Virtual Endoscopy, which uses the patient's existing head and neck CT scans to create virtual fly through reconstructions of the patients airway and allows us to assess the airway in a more recognisable and interpretable format. There is evidence to show that it improves patient safety by influencing the decision making to a more safer plan as compared to CT alone. It is free to use and readily available, so any clinician with access to the CT images can use this technology.

### **The difficult airway in different contexts**

*Gunilla Islander, MD, PhD (Sweden)*

Without oxygenation no life and the free airway is of paramount importance for us. Therefore we must have knowledge to estimate the risks for a difficult airway and chose strategy and equipment for establish a free airway. There are many new interesting "gadgets" on the market but everything is not available everywhere. It is important to have knowledge about the patient, the technical equipment available and last but not least knowledge about personal skills and if and from where help can be obtained.

### **The airway from the laryngologist's point of view**

*Henrik Widegren, MD, PhD (Sweden)*

Nurse anesthetists and intensive care nurses often encounter patients with difficult airways. What can cause difficult airways? What happens before and after anesthesia and intensive care? Can intubation hurt the larynx? The lecture is case-based.

# Tuesday, 19 June 2018

## Opioid Crisis

### **The Opioid Crisis in the USA**

*Jackie Rowles DNP, MBA, CRNA, ANP-BC, DAIPM, FAAN (USA)*

This session will review the history of opioid use and abuse in the USA. Particular attention will be paid the factors that significantly impacted opioid use, abuse, and the national efforts to raise awareness of the opioid crisis. Components and benefits of multi-modal pain management will be explored and participants will be introduced to alternatives to opioid use and resources to aid in planned reduction of opioid therapy.

## IFNA Education Committee

### **IFNA Education Committee mission and work**

*Karin B Björkelund, PhD, CRNA, EC Chair (Sweden)*

The IFNA Education Committee is responsible for planning and executing the Education Session at the IFNA World Congresses. It also acts as a jury for the Poster Session at the World Congresses. The Education Committee has developed a curriculum for a Master's program and a Certificate program. The Committee revises and updates the IFNA Standards of Education, and can assist in the development of Nurse Anesthesia programs, and give recommendations for the education and training of Nurse Anesthetists. The Education Committee is in charge of evaluating applications for the three IFNA Accreditation processes (APAP) in collaboration with the APAP Manager. It also gives feedback on APAP document revisions to the APAP manager. All the Education Committee members are experts in education, research and/or as Nurse Anesthesia program directors and faculty members.

### **Towards a vision for the future of assessment**

*Cees van der Vleuten, PhD (The Netherlands)*

In the last 50 years the field of assessment of professional competence has seen remarkable progress. Developments in assessment technology have taken place across all areas of professional competence, ranging from cognitive to behavioural and emotional aspects of competency. This has been accompanied by extensive research. In order to make assessment more meaningful for learning, however, we need to change our thinking around assessment. We need to move from assessment of learning to assessment for learning, from individual assessment methods to a systems approach of assessment, from cross-sectional assessment to longitudinal approaches to assessment. This presentation will give an account of such a holistic approach to assessment called programmatic assessment. This approach to assessment will be explained and illustrated with an existing assessment practice.

## **Student assessment in different countries in Nurse Anesthesia education**

*Thorunn S. Eliasdottir, PhD, CRNA (Iceland),  
Jakob Ibsen Vedtofte, MEd, RNA (Denmark),  
Jim Walker, DNP, CRNA, FNAP, FAAN (USA),  
Sigrunn Drageset, PhD, RN (Norway)  
Marianne Riesen, MSc, CRNA (Switzerland)*

Assessment methods, feedback, experience

- What assessment methods (eg. multiple choice questions, OSCE, simulation, direct observation, etc) do you use and what is your experience with them?
- Is your feedback/assessment summative or formative?
- How well is your feedback received by the students?
- What competency improvements do your assessment methods achieve?

## **Assessing and validating Nurse Anesthetists' competencies and standards**

*Christian Herion, PhD, MME Unibe, CRNA (Switzerland)*

A variety of assessment strategies are used to obtain information about students' academic and psychomotor skill performance. Which are appropriate criteria Nurse Anesthetists should be tested on? The IFNA Standards (IFNA, 2016) provide a CanMEDS-based framework (Frank J, 2005) and 76 graduate competencies for the definition Nurse Anesthetists' undergraduate education and postgraduate continuing professional development. How IFNA's Standards of Practice can be validated for the definition of Swiss Nurse Anesthetists' competencies was empirically investigated (Herion Ch. et al. 2016). The results showed a high congruency of Swiss NAs' perceived scope of practice with respect to IFNA's international standards. The speech will investigate and present various possibilities to apply IFNA's Standards of Practice to define national Standards of Practice, develop a sound curriculum, assessment and/or Continuing Professional Development (CPD) strategies. Thinking globally, acting locally builds the red wire through this contribution.

## **Perioperative Pain Management**

### **Get up and Go! - Optimizing pain management during cancer surgery**

*Laura L. Ardizzone, DNP, ACNP, CRNA (USA)*

This lecture will focus on the increase use of multi-modal techniques for pain management in the peri-operative period with a particular focus on management of oncologic surgery patients. This lecture will review the current research about the influence of anesthesia type on oncology outcomes and briefly review the current pathophysiology of major cancers. The lecturer will use case studies to illustrate current practices and critically evaluate best practices.

### **Opioid Free Anesthesia and Pain Management**

*John Maye, PhD, CRNA, CAPT (Ret) USN (USA)*

The presentation entitled "Opioid Free Anesthesia and Pain Management" is intended to serve the Certified Registered Nurse Anesthetist with an interest in understanding and treating pain utilizing alternative approaches. The presentation will establish a framework of knowledge intended to impart the Certified Registered Nurse Anesthetist with the necessary background to understand and treat pain without the use of opioids. The utilization of effective and relevant evidence based guidelines will be emphasized throughout the presentation. The concept of pain will be described through a review of interpretation and modulation of nociceptive impulses at different levels of the

peripheral and central nervous system. The presentation is intended to provide the knowledge and skills necessary to vastly improve the treatment of pain throughout the world.

### **Just do it - improving perioperative management in real life!**

*Bitten Dybdal, MD (Denmark)*

It is necessary to continuously improve and develop the standards and quality of perioperative pain management.

Numerous investigations and surveys state, that part of our patients suffer unacceptable postoperative pain and postoperative pain management, and for an increasing amount of patients, the pain develops into a chronic state. We have to improve, but how can we approach this systematically and efficiently? This lecture will describe a systematic approach, engaging both personnel and patients in the process of improvement to make it happen in everyday practice.

### **Management of acute post-operative pain - How efficient are we**

*Vesna Svilenković, RN (Slovenia)*

Priority treatment of pain, low assessments of pain, active participating of a patient and relatives in pain management, improving or maintenance of patient's functional abilities, ensuring patient psychophysical enjoyment and with extension of satisfaction of a patient is determining quality and efficiency of pain management. A nurse has key role at pain management, that first detects of verbal and non-verbal signs of pain. Base of efficient pain management of post operative pain is systematic assessment and measuring of value of pain and definitions of pain as fifth vital sign. We measure efficiency of post-operative analgesia with indicator of quality, that Service of acute post operative pain management, within University Medical Centre Ljubljana, monitors with regard to: frequency of assessment of pain, assessment of pain and with monitoring of side effects and/or complications of analgesia.

## **IFNA Practice Committee**

### **Artificial Intelligence and Big Data: How Data is Changing the Practice of Anesthesiology**

*Jonathan Pabalate, CRNA, DNP (USA)*

While most people associate Artificial Intelligence (AI) with space science fiction. The early forms of it are all around us in our daily lives. This lecture will demystify the complexities hidden behind the techno speak of computer science and is aimed squarely at clinicians practicing in anesthesia. Specifically, how these technologies and analytic techniques are fundamentally changing the way we deliver care today and tomorrow. How should these topics be integrated into our way of approaching better patient care today? How do we strategically equip our students to be leaders tomorrow?

### **NBCRNA: How to assess competency**

*Robert Hawkins PhD, DNP, MS, MBA, CRNA (NBCRNA President);*

*Terry Wicks MS, BSN, CRNA (Vice-President);*

This forty-five minute presentation will provide the requirements for a sound competency program for entry into practice and continued certification as a nurse anesthetist. A successful program includes individual requirements, learning needs, and multimodal components. Lifelong learning needs are established at the onset of the Certified Registered Nurse Anesthetist (CRNA) profession and continuously evolve over the CRNA career.

**Reflective Practice: Measuring Our Own Success and Outcomes**

*Jim Walker, CRNA, DNP, FNAP, FAAN (USA)*

It is incumbent for all nurse anesthetists to reflect on their practice. Reflection should include not only professional and clinical outcomes, but also personal outcomes and wellness. This session will explore the importance of personal and professional reflection as well as its application in today's healthcare arena. Quality is defined and measured in several ways reflecting the vantage points of various stakeholders. The implications of our outcomes are vitally important not only to our patients, but also to those responsible for health delivery systems, reimbursement for healthcare services, healthcare policies, and others. Several common models have been created as a framework to consider quality, the analysis of quality data, and ways in which that analysis can lead to improved outcomes. This presentation is designed to stimulate important introspection by individual nurse anesthetists to evaluate personal and professional successes and outcomes as well as increase awareness of the importance of personal wellness.

**Results of the Global Continuous Professional Development (CPD) Questionnaire**

*Jakob Ibsen Vedtofte, CRNA, MEd (Denmark)*

The presentation will discuss methodological challenges in performing a global survey, but main focus will be to discuss the global CPD results in the light of the participants' own experiences. Topics will be which activities nurse anesthetists learn most and least from and what role informal learning plays in maintaining your competencies. The presentation ends up with a discussion about voluntary or mandatory participation in Continuous Professional Development. We hope that participants with expertise from existing systems as well as participants without will participate.

**Challenges of Anesthesia in the Day Surgery**

**Does anaesthesia, drugs/technique for none cardiac surgery, impact short and long term outcomes; an update 2018**

*Jan Jakobsson, MD, PhD (Sweden)*

Available anaesthetic drugs are reassuringly safe. They have all been tested and developed in extensive drug development programs and subsequently been approved by national and/or international drug agencies, e.g. the European Medicine Agency or the Food & Drug Administration. There is however a debate what drug and drug combination that is best; provides best outcome. Outcome is however not that well defined. Rapid onset of action, safe and effective intraoperative course and rapid offset, awakening and recovery are basic requests. The anaesthetic should also be easy to use and handle, a reasonable therapeutic marginal of safety is of value. Minimal inter-individual effect and kinetics is also of huge importance. The drugs should provide dose effects in order to titrate depth of anaesthesia. Administration and monitoring of effects is without of huge importance, avoiding too deep and/or too light anaesthesia. The hemodynamic effects should be known and mild. The goal being maintaining homeostasis during surgery. Recovery should be rapid, and associated with minimal residual effects; avoiding depression of protective reflexes e.g. swelling and hypoxic and hypercapnic response/reflexes. Quality of recovery is nowadays of growing importance and several tools for the assessment of quality of recovery are available. Emergence agitation, postoperative delirium should be minimized and long term subtle cognitive effects e.g. Postoperative Cognitive Dysfunction in the elderly should be minimized.

There is suggestions that certain drugs could exhibit protective effects, protecting negative effects associated to ischemia reperfusion, and transient hypoxia. There is also suggestion that anaesthetic technique may impact risk for cancer recurrence and metastasis. The clinical evidence base

supporting these latter effects are still most limited. While simple measures intraoperatively seems to have important impact, avoidance of mean arterial blood pressure below 60 – 65 mmHg, reducing risk for myocardial ischemic event and renal impairment. Tailoring anaesthetic delivery in the elderly avoiding deep anaesthesia BIS < 40 reducing risk for neurocognitive side-effects. Optimizing drug delivery and using an opioid sparing analgesic technique facilitating resumption of GI tract function. It been said many time before, it is probably what drug/technique that is used, but how it is used. Follow strict protocol and strive for maintaining basic homeostasis promotes safety, improves patient turnover and quality of recovery.

### **Challenges of Anesthesia in the Day Surgery**

*Pernille Lykke Petersen, MD, PhD (Denmark)*

In day surgery, an increasing number of complex operations are carried out, often in patients with co-morbidity. The anaesthetist faces the challenge of providing anaesthesia with adequate hypnosis, analgesia and postoperative pain relief, yet allowing the patient to resume normal activities within a few hours of recovery. Patient flow, organization and methods of anaesthesia and monitoring will be discussed.

## Wednesday, 20 June 2018

### Donor Management and Organ Transplantation

#### **Caring for the Organ Donor Patient in Intensive Care – An Irish Perspective**

*Breda Doyle RGN, HDip, MSc (Ireland)*

The presentation aims to outline the patient pathway from identification of the potential organ donor, declaration of death, referral and donor evaluation, nursing and medical treatment and care of the donor, to successful organ retrieval completing the donation pathway from an Irish perspective.

#### **Heart transplantation in Croatia**

*Adriano Friganovic, RN, BsN, MsN (Croatia)*

A heart transplant is an operation in which a failing, diseased heart is replaced with a donor heart. Heart transplant is a treatment that's usually reserved for people who have tried medications or other surgeries, but their conditions haven't sufficiently improved. Croatia has long tradition in transplantation surgery. First heart transplantation has been undertaken 1988. and become routine surgical procedure in two cardiac surgery centres. This paper will show development of heart transplantation program in Croatia and demonstrate case report. However, this paper will also demonstrate role of an anaesthesia nurse in the heart transplant procedure.

### Safety and Quality Issues Of Anesthesia

#### **Why do we err? Unavoidable vs unacceptable in anesthesia mishaps**

*Moncef Jendoubi, CRNA, BSN (Tunisia)*

“Human error” is a part of “human nature”, subsequent to punctual failure of interaction between human physical, psychic and cognitive functioning, in a working environment. By human errors, we mean two types of unintended actions:

- a) Slips actions not carried out as intended or planned (execution stage)
- b) Lapses are missed actions and omissions or incorrect action following a distraction (memory stage)

Analyzing “Human Error” in healthcare systems, and especially in anesthesia and intensive care is a complicate issue, requiring knowledge of the mechanisms leading to the error and its consequences, and has at least three meanings: 1. Human error as cause; 2. Human error as event; 3. Human error as consequence. Based on a thorough review of the literature and recent scientific research, we can identify three principal issues:

- A. A contextual issue based on “Design for Error”: Most errors result from “the system”, and major healthcare “systems accidents” are a result of latent errors accumulation. Therefore, Errors can be prevented by designing tasks and processes to minimise dependency on “human weakness”. If we design systems appropriately we can minimise error.
- B. A perceptual issue based on “human factors”: Human behaviour is a complex process, as people behave in different ways in different situations. Various psychological factors affect human behaviour like attitude, communication, motivation, memory, personality and perception. Additionally, individual factors such past experience, culture, level of knowledge and understanding, emotions, addictions, fatigue and stress, have significantly influences on the way people behave. Recently, according to the latest findings in neuroscience, decision-making isn't logical, it's emotional!

- C. Interaction between both contextual and perceptual factors: Area of expertise for “Occupational psychology”, is concerned with how behavioural factors together with the mental, psychological and physical capabilities of people, can interact with work conditions and activities with particular reference to health and safety issues.

Take a message:

- i. Errors are common and predictable, because their causes are known, treatable and overall avoidable.
- ii. As health care providers, we can improve our patient safety and comfort by understanding the nature of error and learning from errors.
- iii. It requires the dissemination of a true culture of error!

### **Postoperative urinary retention**

*Eva Joelsson-Alm, RN, CCRN, PhD (Sweden)*

Urinary retention is a common complication following surgery, which can result in overdistension of the bladder and leading to chronic bladder damage and persistent micturition difficulties. In many cases this can be classified as an avoidable patient injury.

The perianaesthesia nurses must raise awareness about bladder damage due to urinary retention and the long-lasting consequences for the affected patient. There is a need of improved, evidence-based bladder monitoring routines during perianaesthesia care to avoid patient damage in the future. The lecture will provide updated knowledge about risk factors, consequences for the patient and preventive measures.

### **Patient’s privacy in operating department**

*Mari Saanisto, RN, MHSc (Finland)*

Privacy is a basic human right and need. Safeguarding patient’s privacy is legal and ethical duty of a nurse. Nurse anesthetist’s understanding of multidimensional privacy plays a big role how patient’s privacy is respected in OR.

### **Strategies to Prevent the Top 10 Anesthesia Errors Resulting in Poor Patient Outcomes**

*Lorraine Jordan, PhD, CRNA, CAE, FAAN (USA)*

This presentation will highlight the top 10 errors in anesthesia care resulting in poor patient outcomes. The topic will explore errors in anesthesia care and examine factors that contributed to poor outcomes. Strategies to mitigate those errors in anesthesia delivery will be discussed. Optimizing anesthesia care through an improved awareness of anesthesia errors to decrease risk in anesthesia delivery is the ultimate outcome of the lecture.

## **Education**

### **Educational aspects of nurse anesthetics: Master level education from creating a programme to enhancing professional development**

*László Papp, PhD, MSc(N), RN (Hungary)*

Outline of presentation:

- The Context: General features of nursing masters education in Hungary before and after 2016
- Main characters of the nursing MSc: building blocks of the curricula
- How to support the learning process with planned education
- Pedagogical aspects of the education: mixing theory and practice
- Supportive factors: from the student’s perspective to hospital’s cooperation
- Risk factors and debates around the initiation of the new nurse masters to the field practice

## **Simulation as an innovative teaching method at Semmelweis University Faculty of Health Sciences** *Attila Lőrincz, BSc, MSc, PhD candidate (Hungary)*

The lecture would like to introduce the current simulation types, and styles at Semmelweis University Faculty of Health Sciences like low, medium and high-fidelity simulators and simulations, standard patient and hybrid simulations and its current place in Nursing and Midwifery education.

### Perioperative treatments

#### **Perioperative Inadvertent hypothermia: Pathophysiology and clinical implications**

*Moncef Jendoubi, CRNA, BSN (Tunisia)*

After exposing the most common Myths about hypothermia, explaining perioperative hypothermia pathophysiology and consequences is necessary to provide excellent patient care and to improve patient outcomes, comfort and satisfaction.

Understanding pathophysiology of perioperative inadvertent hypothermia is essential for all surgeons, anesthesiologists, nurses... It's necessary to know all research results about relationship between perioperative inadvertent hypothermia and: adverse cardiac/hemodynamic events, hemostasis dysfunction, hemorrhage increasing, surgical site infection, coronary disease, more blood RC and FFP transfusion, longer hospitalization and higher healthcare expenses. As anesthesia providers, we should be aware, also, about altered drug metabolism, especially for curares, curarisation, oxygen needs during post anesthesia recovery...

Inadvertent hypothermia is the second cause of post anesthesia discomfort. Its pathophysiology is nowadays well known. Prevention is easy, efficient and strongly recommended!

#### **Perioperative pain management in children and neonates**

*Ulrike Knipprath, MD (Germany); Szabolcs Péter Tóth, RN, BSc, MSc (Hungary)*

Perioperative pain therapy is one of the core pieces in the operative treatment of children. Untreated or not sufficiently treated pain can cause metabolic disorders, immune suppression and psychic disorders. It lowers pain barriers for at least one year and can lead to a chronic pain syndrome. For satisfactory pain management it takes the involvement of both, child and parents, skilled and well-rehearsed treatment, regular pain measurement and a multimodal concept if necessary consisting of pharmacological, physical and psychological means.

### Closing Keynote

#### **The Aftermath of Perioperative Catastrophes: Our Voices are Finally Heard!**

*Maria Van Pelt, PhD, CRNA (USA)*

The purpose of this activity is to enable the learner to understand the impact of perioperative catastrophes on health care providers and the patient safety implications.

Most health care providers will experience a perioperative death of a patient or a major perioperative catastrophe in the course of their career. Policies and procedures on how to handle the aftermath of perioperative catastrophes and the emotional well-being of the provider have not been mandated. If the provider adopts a "business as usual" mentality, this may lead to dysfunctional behavior, subsequent harm to the provider and suboptimal care for subsequent patients. This lecture provides an overview of the impact that a perioperative catastrophe may have on the health care provider and patient safety. The lecture is to increase awareness and knowledge surrounding the impact of the aftermath of perioperative catastrophes on health care providers and ways of coping.