**Session Title:** Rational Approach to Transfusion in the Critically Ill

**Brief Description:** Mounting evidence indicates that RBC transfusion carries significant risk and fails to improve, or paradoxically – may reduce oxygen delivery and thereby contribute to adverse clinical outcomes. Consequently, optimal approaches for monitoring and transfusion decision-making are unclear. Similarly, optimal monitoring of hemostasis and indications for correction of coagulopathies in critically ill children lack clear consensus. Both areas in Transfusion Medicine, however, require action by intensivists on a daily basis. Here we review: 1) the current state of knowledge about red cell physiology and the “storage lesion”; as well as the hemostatic system and the status of blood component therapy, 2) current clinical trials examining the efficacy of RBC transfusion and the impact of donor RBC age upon outcome in transfusion recipients, 3) state of the art methodology for monitoring O₂ delivery to tissue and hemostatic system functional performance 4) an approach to balancing risks and benefit of transfusion in selected populations commonly encountered in clinical practice.

**Date:** June 10, 2018

**Chairpersons:** Allan Doctor, MD & Phil Spinella, MD

**Venue:** 9th Congress of WFPICS. June 9-13, Singapore

**O₂ Delivery & RBC Talks:**

- **0830** “Physiology and Impact of Storage Lesion Upon O₂ Delivery”
  Allan Doctor, MD (Washington University in Saint Louis)

- **0900** “Monitoring O₂ Delivery & Physiology of Anemia Tolerance”
  Andrew Argent, MD (Cape Town University, SA)

- **0930** “Transfusion Related Immunomodulation: Review and Relevance in the PICU”
  Jennifer Muszynski, MD (Ohio State University)

- **1000** “Clinical Trials in Transfusion Medicine & Hb Threshold Based Decision Making”
  Jacques Lacroix, MD (University of Montreal)

- **1030** “Precision Physiology Based Transfusion Decision Making”
  Allan Doctor, MD

- **1100** “O₂ Delivery Monitoring and Decision Making in Special Populations”
  Duncan Macrae, MD (Imperial College, London, UK)

- **1130** “Pediatric Critical Care Transfusion and Anemia Expertise Initiative”
  Stacy Valentine MD (University of Massachusetts)

**1200-1300 Lunchbreak & Questions for Panel**

**Hemostasis Talks**

- **1300** “Coagulopathy of Trauma in Children: What is it and how to monitor it”
  Robert Russell, MD (University of Alabama)

- **1330** “Hemostatic Resuscitation Principles for Life-Threatening Bleeding in Children”
  Phil Spinella, MD (Washington University in Saint Louis)

- **1400** “Plasma Product Selection and Indications for Use in non-life threatening hemorrhage”
  Oliver Karam, MD (Virginia Commonwealth University)

- **1430** “Platelet Product Selection and Indications for Use in non-life threatening hemorrhage”
  Marie Steiner, MD (University of Minnesota)

- **1500** “Fibrinogen Concentrates vs Cryoprecipitate for bleeding in children.”
  Andre Cap, MD, PhD (US Army Institute for Surgical Research)

- **1530** “What is the role of antifibrinolytics in life-threatening bleeding in children?”
  Barbara Gaines, MD (University of Pittsburgh)

- **1600** “Management of life-threatening bleeding for the child on ECMO”
  Marie Steiner, MD (University of Minnesota)

- **1630** Questions for Panel