

**Title:**

When Parallel Worlds Collide: A Story of High Reliability in an Academic Medical Center

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**Session Title:**

Life, Death, and Birth: The Complexity of Care in a High-Risk Academic Center

**Slot:**

G 07: Monday, 30 October 2017: 1:15 PM-2:30 PM

**Scheduled Time:**

1:15 PM

**Keywords:**

Collaboration, High Reliability and Nursing practice

**References:**

Chassin, M. R. & Loeb, J. M. (2013). High reliability health care: Getting there from here. *The Milbank Quarterly*, 91(3), 459-490.

Chassin, M. R. & Loeb, J. M. (2011). The ongoing quality improvement journey: Next stop, high reliability. *Health Affairs*, 30(4), 559-568.

Riley, W. J. , Les, M. & Parotta, C. (2012). Measuring high reliability in hospital perinatal units. *International Journal of BioSciences*, 2(1), 104-109.

Weick, K. E. & Sutcliffe, K. M. (2015). *Managing the unexpected: Sustained performance in a complex world*. John Wiley & Sons: Hoboken, New Jersey.

**Abstract Summary:**

The concepts of high reliability are highlighted in this poignant clinical exemplar involving a young woman and her fetus. The importance of collaboration and communication become clear within this story of life, death and birth.

**Learning Activity:**

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to identify the five characteristics of a high reliability organization.	The five characteristics of a high reliability organization include: sensitivity to operations, reluctance to simplify, preoccupation with failure, resilience and deference to expertise.

<p>The learner will be able to relate the five characteristics of a high reliability organization to nursing practice.</p>	<p>1) Sensitivity to operations - nursing assessment and attention to the smallest of details when assessing for threats in the patient and his/her environment. The smallest of changes can herald a serious threat 2) Reluctance to simplify - nursing assessment and the subtle changes among threats that mean the difference between early and late recognition 3) Preoccupation with failure - nursing assessment and not being satisfied with the status quo 4) Resilience - despite best efforts safety issues will arise and must be addressed 5) Deference to expertise - the age-old nursing attribute of asking a colleague when a unique or difficult situation arises out of the realm of expertise of the nurse</p>
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## Abstract Text:

### Background

The Institute of Medicine estimated 44,000-98,000 deaths per year as the direct result of healthcare errors. Therefore, healthcare is complex and risky but not highly reliable. High Reliability Organizations (HRO) experience fewer errors despite an inherently risky environment. Some examples of HRO's include commercial aviation, nuclear submarines and the banking industry. In order to decrease preventable errors HRO characteristics have been applied to healthcare.

### Action

The five characteristics of a HRO include: sensitivity to operations, reluctance to simplify, preoccupation with failure, deference to expertise and resilience. Sensitivity to operations causes the organization to acknowledge that threats to performance typically show themselves as minute changes in organizational performance. Reluctance to simplify manifests itself in an organization that assesses differences in threats leading to early versus late recognition. Not being satisfied with long term successes but constantly looking for a signal of even a small threat is the characteristic of reluctance to simplify. Deference to expertise is crucial to finding answers to new threats to safety in an organization. Commitment to resilience means that even an organization's best efforts will not uncover every safety concern. This presentation will explore the HRO characteristics that contributed to the positive outcomes in the case of a 17 year-old, pregnant woman who sustained a Traumatic Brain Injury after a motor vehicle accident. The mother was transferred to an academic medical center where Neurology, Intensive

Care, Obstetrics and Neonatal Services all collaborated in order to provide optimal care for the mother and her fetus.

The characteristics of HROs were apparent in this case starting with sensitivity to operations. The complexity of the system needed to care for the patient and her fetus was fully evident. Multi-disciplinary collaboration and communication between the Transplant Surgical Intensive Care Unit, Obstetrics and the Neonatal Intensive Care Unit were essential to the outcomes. The characteristic of reluctance to simplify was seen in the care the patient received. A true collaborative effort was needed in order to achieve the intended outcomes. The preoccupation with failure was seen daily as the case was discussed in multi-disciplinary Safety Rounds. Where decisions related to care were made minute-to-minute. Deference to expertise was ongoing as there were few cases in the literature to guide care therefore in-house, national and international experts were consulted. Ethical issues central to this case and the characteristic of resilience resulted from the daily discussion of the ethical issues involved in the case amongst all caregivers. Resilience was also seen as the team realized a missed opportunity after delivery of the infant which did not affect any of the intended outcomes but caused a significant ethical crisis.

#### Outcomes

After 10-plus weeks, a healthy baby girl was born and she is meeting all developmental milestones now over one year later. During the mother's hospitalization she did not experience any Catheter-associated Urinary Tract Infection, Central Line-associated Blood Stream Infection, nor Hospital-acquired Pressure Ulcers. Adherence to the concepts of HROs resulted in a positive neonatal outcome and observance of the patient's and family's wishes for organ donation by the mother. Lungs, pancreas and liver were all harvested and released for transplantation to long-awaiting recipients.

#### Implication for Nursing Practice

Nurses take a leadership role for ensuring patient safety and achieving high quality. To develop a safe culture nurses can utilize characteristics of HROs thereby demonstrating high reliability in healthcare organizations and promoting optimal patient outcomes.