

## **The Value of Preoperative Planning- Handout**

### **Young Practitioner's Forum 2013**

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**Objective: At the end of this session, you should feel guilty into spending more time preparing for cases.**

#### **Five Particular Benefits of Preoperative Planning:**

1. The Optimism and Overconfidence Biases and Attentional Reserve
  - a. "An unbiased appreciation of uncertainty is a cornerstone of rationality- but it is not what people and organizations want." Daniel Kahneman. Thinking Fast and Slow
  - b. Pattern recognition is a trait of expertise.
  - c. When fractures do not fit into common, recognizable patterns, reflection becomes necessary.
  - d. Reflection requires time.
  - e. Time is a limited commodity.
  - f. Time is more effectively used in preparation in an effort to limit cognitive overload and loss of attentional reserve intraoperatively.
  - g. Examples- the intraoperative delay, the definitive surgeon that is blatantly wrong...and everyone know it
2. The Power of Proactive Failure Analysis
  - a. "When proactive failure analysis is incorrect or incomplete, design errors are introduced and actual failures occur." Henry Petroski. To Engineer is Human: The Role of Failure in Successful Design

- b. A good surgeon possesses a site of the end at the beginning. He/she respects and learns from history and can predict likely failure modes.
  - c. Displacement is characterized at the beginning. Implants are rationally placed to counteract that displacement.
  - d. If you want to know what your nonunion radiographs will look like, take the injury films and draw in some broken hardware or implant/bone interface failures.
  - e. Since the laws of nature and physics have not changed, failure lessons from history are just as relevant today.
  - f. Examples- the 30 year interval of major bridge failures, the round hole plate and "l'os traître."
3. Softer Competencies: Interpersonal and Communication Skills and Systems-Based Practice
- a. "When a person gets nervous about performing, he naturally becomes extra self-conscious. He starts to focus on himself, trying to make sure he doesn't make any mistakes. He begins scrutinizing actions best performed on autopilot. The natural fluidity of performance is lost. The grace of talent disappears." Jonah Lehrer. [How We Decide](#)
  - b. Communication failures have been reported to occur in 60% of the sentinel events reported to the Joint Commission on Accreditation of Healthcare Organizations.
  - c. We are called to work in interprofessional teams to enhance safety and improve patient care...but we value autonomy.
  - d. It is the mark of effortful activities that they interfere with each other.
  - e. When we struggle, communication suffers.
  - f. Communicating ahead of the struggle (both with ourselves and with others) allows for a healthier intraoperative environment.
  - g. Examples- the jackass surgeon that barks at everyone when struggling, anesthesia not recognizing the major blood loss (that was expected from the beginning) until it is too late
4. On the Concept of Surgical Expertise

- a. “The maximal level of performance for individuals in a given domain is not attained automatically as a function of extended experience, but the level of performance can be increased even by highly experienced individuals as a result of deliberate efforts to improve.” K. Anders Ericsson. “Deliberate Practice Acquisition of Expert Performance: a General Overview”. *Acad Emerg Med*, 2008. 15(11): 988-94.
- b. We typically operate in a sufficiently regular environment that could be considered predictable.
- c. We have opportunities to learn these regularities through prolonged and repetitive practice.
- d. Deliberate action based on timely feedback of outcomes leads to improvement.
- e. Consistent improvement with each successive procedure is possible.
- f. Example- the surgeon that does it this way because that’s how he was trained to do it...20 years ago.

#### 5. The Checklist Manifesto

- a. “We don’t like checklists. They can be painstaking. They’re not much fun. But I don’t think the issue here is mere laziness. It somehow feels beneath us to use a checklist, an embarrassment. It runs counter to the deeply held beliefs about how the truly great among us—those we aspire to be—handle situations of high stakes and complexity. The truly great are daring. They improvise. They do not have protocols and checklists. Maybe our idea of heroism needs updating.” Atul Gawande. [The Checklist Manifesto: How to Get Things Right.](#)
- b. The systematic analysis of a problem requires discipline.
- c. When an answer is present but we fail to see it, failure is less acceptable.
- d. Fewer preventable mistakes occur when preparation is present.
- e. Example- putting in antibiotic beads made of vancomycin...then realizing the patient is allergic to vancomycin.