Research directions in Perioperative Medicine

Lee A. Fleisher, M.D.
Robert D. Dripps Professor and Chair of Anesthesiology
Perelman School of Medicine at the University of Pennsylvania
Email: lee.fleisher@uphs.upenn.edu
Avoiding Professional Extinction

Michael M. Todd, M.D., Lee A. Fleisher, M.D.

“... if a profession ceases to create, if too few of its members see the value in such creation, it fossilizes.”
Approach

• What outcomes should we be studying?
  – Process versus outcome
  – Recovery of function
• Organ preservation
  – Basic Science
  – Clinical outcomes
• Clinical Protocols-
  – Comparative effectiveness
  – Implementation science in the perioperative period
• Communication in the perioperative period
  – Right procedure- Informed consent
• Right location
If we cannot incent outcomes, can we incent process?
What should we care about?

Figure 1 Incidence, case distribution, and mortality for postoperative complication groups.

Fleisher et al. Periop Med 2014
Patient Reported Measures

OUTCOMES THAT MATTER TO PATIENTS

Jill Dawson et al. BMJ 2010;340:bmj.c186
### 12-item version, self-administered

This questionnaire asks about difficulties due to health conditions. Health conditions include diseases or illnesses, other health problems that may be short or long lasting, injuries, mental or emotional problems, and problems with alcohol or drugs.

Think back over the past 30 days and answer these questions, thinking about how much difficulty you had doing the following activities. For each question, please circle only one response.

#### In the past 30 days, how much difficulty did you have in:

<table>
<thead>
<tr>
<th>Item</th>
<th>Difficulty Description</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Extreme or cannot do</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Standing for long periods such as 30 minutes?</td>
<td></td>
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<tr>
<td>6.2</td>
<td>Taking care of your household responsibilities?</td>
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<tr>
<td>6.3</td>
<td>Learning a new task or figure out how to get to a new place?</td>
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<td>6.4</td>
<td>How much of a problem did you have gaining or maintaining weight? The example includes: a tendency to gain, a tendency to lose, or other examples in the same way as anyone else?</td>
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<td>6.5</td>
<td>How much have you been emotionally affected by your health problems?</td>
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<td>6.6</td>
<td>Washing or doing something for your hair, face, or body?</td>
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<td>6.7</td>
<td>Taking or giving medicine, such as a pain medicine or equivalent?</td>
<td></td>
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<td>6.8</td>
<td>Getting dressed?</td>
<td></td>
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<td>6.9</td>
<td>Dealing with someone you do not know?</td>
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<td>6.10</td>
<td>Managing a Paradise?</td>
<td></td>
<td></td>
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<td>6.11</td>
<td>Your days or your work?</td>
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**Figure Legend:**

- **Shulman et al. Anesthesiology. 2015;122(3):524-536**
We know from the recent patient satisfaction movement that physicians benefit from patient feedback. So why not anesthesiologists? Is there nothing that anesthesiologists do that is worth patients weighing in on?

Countless eyes glazing over helped me realize that explaining what we do medically was not precious time well spent. Patients assumed I'd be technically competent. What they wanted to know was that we cared.”
Organ Preservation
Conceptual Framework

**Patient factors**  
(age, genotype, cognition)

**Surgery**

**Anesthesia**

**Neuroinflammation**

**Nutritional change**

**Sleep disturbance**

**Pain**

**Immobility, etc**

**Delirium & Cognitive Decline**

**Neurotoxicity**

**fixed**  
**modifiable**  
**outcome**

Courtesy: Rod Eckenhoff
Perioperative Brain Health Initiative: Anesthesiologist leadership in improving population health

Lee A. Fleisher, M.D.
Robert D. Dripps Professor and Chair of Anesthesiology
University of Pennsylvania Perelman School of Medicine
Key Questions

1. should the public be informed about the risks of surgery and anesthesia on postoperative cognition in the vulnerable brain and be informed of strategies to reduce that risk
2. how can providers be informed of and galvanize to implement strategies to reduce postoperative delirium and cognitive dysfunction
3. can funders be educated about the gaps in knowledge regarding these conditions.
Pragmatic Trial
Implementation Science

Figure 1. HATRICC conceptual model.
By the time of the consultation, patients and surgeons were predisposed towards certain decisions by preceding events occurring in other settings. During the visit, surgeons held differential power to arbitrate surgical intervention and construct the severity of patients’ conditions. These upstream dynamics frequently displaced the centrality of the risk/benefit-based consent discussion.
TEMPLATE MATCHING

TEMPLATE
N = 300

MATCH 217 HOSPITALS TO EACH TEMPLATE PATIENT

HOSPITAL 1
N = 300

HOSPITAL 217
N = 300
Magnet vs. Non-magnet Hospitals

1a. 30-day Mortality

1b. 30-day Cost
Imagine Future State

Healthy, low risk procedure

Frail, high risk procedure

Never see such Patients

See such Patients, High M/M

See such Patients, Low M/M
THE PLACE OF THE ANESTHETIST IN AMERICAN MEDICINE

HOWARD W. HAGGARD, M.D.

Director, Laboratory of Applied Physiology, Yale University

What I have to say here regarding the place of the anesthetist in American medicine is not an encomium either of the men in this field of medicine or of their contributions. I offer no praise of the anesthetist as a scientist or as an humanitarian, nor do I glorify the relief from suffering afforded by his skill and knowledge. If then, I depart, as my negations must signify, from the easy, ingratiating words customarily spoken on occasions of this kind and under a title such as I have chosen, it is with a purpose.

That purpose is not to define the calling of the anesthetist in terms of what has been done and what can be done in the laboratory or at the operating table or at the bedside. It is not the contributions of the anesthetist with which I deal, but instead, the public regard in which these contributions are held. And I shall emphasize the fact that it is this public regard which determines the place of the anesthetist in American medicine.
The specialty of anesthesia is finally becoming interpenetrated with the scientific attitude. This attitude, joined with resolute conviction, will be an answer to its problems. There is a definite return to the truly scientific tradition and an alignment that gives it a form consistent with modern science. The anesthetists have accepted the challenge imposed with the new order of anesthesia. One of the first
Rethinking the Challenges of Health Care: Time to Cultivate More Tri-Sector Leaders

Article · June 20, 2016
Andrew M. Ibrahim, MD, MSc & Lee A. Fleisher, MD

University of Michigan
University of Pennsylvania