Technology, Leadership and our Future!!!

Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

Frost

LTC Peter Strube
CRNA MSNA APNP ARNP DNAPc
Assistant Professor Rosalind Franklin University

Leadership for the future!

Financial Disclosure

There is no financial conflicts with this presentation.

Lecturing about a topic does not constitute endorsement of any product. Please take the time to research each topic for more information.

Mentioning a product or company does NOT represent endorsement.

Think outside the BOX—Think Differently!

Old Drugs, New Ways
New Drugs, Old Battles!

Pharmacogenetics—Micron Technology

Have you ever “needed” that new Apple Product?
Why did you want it?
Technological imperative!

The desire to have state of the are technology available and use it despite its cost or established benefits...

WE MUST HAVE IT!

Key Technology changes

- Technology has raised the patient expectations that the latest must be the best.
- Technology has changed the organization of patient services. (access)
- Technology has driven change in education.
- Technology has changed status of certain providers of care.
- Technology leads the reason for healthcare cost increase.
  - Not all technology is useful or safe!!

Hummingbird System

Google started using Hummingbird about 30 August 2013

Google said that Hummingbird is paying more attention to each word in a query, ensuring that the whole query — the whole sentence or conversation or meaning — is taken into account

Think about why people are looking for something rather than what they are looking for. A content strategy should be designed to answer their needs, not just provide them with facts

What is our future? Will there be an UBER AIRWAY?

Are we lazy? forgetful?

I-Beacon technology:

The glasses contain Bluetooth technology which connects your phone to them. By simply turning on Bluetooth and downloading the corresponding app, you’re connected. Plus, you’ll start to get notifications at various points once you leave them, starting from 16 feet. If that doesn’t seem easy enough for you and you STILL manage to lose the glasses, you can locate them on a map in the app

How crazy is the future?

The incidence of Clostridium difficile infection (CDI) has risen sharply over the last two decades. The number of cases among hospitalized adults tripled between 1993 and 2005 and more than doubled between 2001 and 2005. Mortality rates have also increased, coincident with the emergence of the hyper virulent NAP1/BI/027 strain.

Fecal microbiota transplantation (FMT or fecal transplantation) — has proved highly effective at eradicating C. difficile infection and restoring a healthy gut microbiota.

Quick, inexpensive and a 90 percent cure rate! Mayo Clinic numbers; March 2012
The Question is?
How can we prepare for the future, and prepare our CRNA's/SRNA's appropriately for career's of the future not in 2016 but rather in 2026 and beyond…?

It should not be? How long can we make the current situation last?

Flipped and DUAL Classrooms?
This is the Future…..

Rosenthal Effect

Can I be excused?  
... my brain is full!

Ten Innovations That Will Transform Anesthesia

Checklists  
Behavioral Economics  
Patient Portals  
Payment Innovations  
Evidence-Based Decision Making  
Accountable Care Organizations  
Regenerative Medicine  
Virtual Visits  
Genetics Enters Practice

Do we Speak the same Language?

We have terms for Music, Nursing, Military and everything… so make sure we speak the same language…

So why is this important?

Greenberg and Becker Study
Communication Skills

We deal with people differently!

Non-Verbal and Verbal
- Sound
- Words
- 55% what we see
- 38% what we hear
- 7% words

Non-Verbal
- This is the most powerful type of communication.
- Body Posture, Leaning forward or away…
- Gestures, facial expressions
- Back Tracking is beginning in this group
Be Flexible!—Leaders must!

- When you are dealing with difficult people remember you have the advantage.
- Because of this you have the ability to bend and adapt to solve the problem... flexible is not a bad word.
- Flexibility is a sign of health and power
- Maintain more than one choice
- Be prepared for options and resolve
- Get feedback instead of failure

Thoughts....

- Management is easy. Leadership is motivating people, turning people on, getting 110% out of a personal relationship.

What type of leader are you?

Can you change your style for the situation?

Let’s Take a Step Back: Technology – the basic idea

Technological advances allow the production of more output from existing resources

- More efficient ways of producing existing output
- Production of new (or substantially improved) items

We gain both from more output/cheaper prices and from improved items and innovations

“The last 30 years”

EZ Call—the wave of tomorrow?

Technology Pervades Society (more deeply than we think)

My 102 year old father (or so he claims) just got online

People check their email when they get up at night to go to the bathroom

When my plane landed, what did “everyone” immediately do?

Major Problems of Health Care “System”—Why do we care?

We don’t have a system!

- Increased Costs
- Decreased Access
- Variable Quality
- Increased Fragmentation
- Increased Administrative Burden
- Technological Imperative
- Medico legal Liability
- System Out of Control
Focus of HCAHPS on Pain and Patient Satisfaction

- Pain
- Establishing and maintaining an institutional pain performance improvement plan is a Joint Commission requirement.
- Patient satisfaction
- Local, regional, or national patient satisfaction data are now being reported via Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS, also known as CAHPS® hospital survey).
- As part of the Affordable Care Act 2010, the Centers for Medicare and Medicaid (CMS) have established hospital reimbursement based on HCAHPS scores.
  - Effective beginning October 1, 2012


- A random sample of patients discharged from hospitals across the country are surveyed and asked questions about their feelings and perceptions about their hospital stay. This measure combines hospital performance on questions that asked patients their levels of satisfaction with some of the following elements of their stay:
  - How well nurses communicated with patients
  - How well doctors communicated with patients
  - How responsive hospital staff were to patients’ needs
  - How well caregivers managed patients’ pain
  - How well caregivers explained patients’ medications to them
  - How clean and quiet the hospital was
  - How well caregivers explained the steps patients and families need to take to care for themselves outside of the hospital (i.e., discharge instructions)

- The survey also asks patients to give an overall satisfaction rating to their hospital stay.

HYPOTHERMIA

50% to 90% of surgical patients (approximately 14 million) experience inadvertent perioperative hypothermia each year

Between 30-40% of all surgical patients are hypothermic upon admission to PACU

Inadvertent hypothermia has been called as the most frequent, preventable complication of surgery and anesthesia

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temp</td>
<td>Air conditioning</td>
</tr>
<tr>
<td>Min temp for pacu adm</td>
<td>85%</td>
</tr>
<tr>
<td>Min temp for general anes</td>
<td>90%</td>
</tr>
<tr>
<td>Shivering</td>
<td>70%</td>
</tr>
<tr>
<td>Surgical site</td>
<td>60%</td>
</tr>
<tr>
<td>Output, HR</td>
<td>45%</td>
</tr>
<tr>
<td>Extremity motion</td>
<td>50%</td>
</tr>
</tbody>
</table>

Ask the question??

What is Driving us?

Technological advances
Aging of population
Increase in chronic disease
Inefficiency and redundancy of private insurers
Profiteering by investor-owned companies, facilities and providers
Consumer demand
Defensive medicine
We Must Start to Think Differently!

We can no longer sit by the wayside, we must make ourselves better.

Think outside the box.....

People don’t learn like we do?

Think about time???? Think differently... Think, it is not illegal yet!

Why bother with the future?

“The future belongs to the unreasonable ones, the ones who look forward not backward, who are certain only of uncertainty, and who have the ability and the confidence to think completely differently.

- Charles Handy quoting Bernard Shaw
- Progressives are mainstream only ahead of their time!

Why bother with the future?

The point is not to predict the future but to prepare for it and to shape it

THINK
it’s not illegal yet

Pennsylvania hospital to open country’s first inpatient treatment program for Internet addiction

Opened 9/9/13

The idea that someone can suffer from Internet addiction first surfaced in the mid-1990s, and Young presented her first paper on the issue in front of the American Psychological Association in 1996.

But as the Internet’s popularity grew and became a staple in most people’s lives, so has the recognition that portion of the population shows signs of being addicted.

Do you know where the Net comes from?
Can you imagine being without the net?

http://www.youtube.com/watch?feature=player_embedded&v=zEgSeuCiiYI

The way we learn has changed...

Written Text books?

Prodigy Rocks!

Interactive Questions!

Basic Sciences: Tobacco Abuse

You explain to a patient who smokes cigarettes that in order to minimize the effects of carbon monoxide on oxygen-carrying capacity, he/she should refrain from smoking for at least

- A. 4-6 hours
- B. 6-12 hours
- C. 12-18 hours
- D. 24-48 hours
Answers and Citation!

The correct answer is C

The elimination half-life of carbon monoxide is about 4 to 6 hours which means that a smoke free interval of 12 to 18 hours results in marked decreases in carboxyhemoglobin levels and a corresponding increase in oxygen carrying capacity.


Promote a Clash of Ideas

- Ideas Matter

- It’s a process of involving people. Making them responsible for the shaping and development of their ideas.

- The front lines

Internet truly on the Go!

Oculus Rift and Google Glass Augment Surgery at Spanish Hospital

Doctors have found a novel use for the Oculus Rift virtual reality headset as a means of easing patient anxiety during surgery. 7/11/14


The way we learn?

Are we forgetting how to communicate?

Do you remember how and when?

Hospital becomes first to use Google Glass in the...
AANA closed Claims: Lack of vigilance contributed in 79% of claims.
(ASA says opposite, but higher payout)

Computers in the OR? Cell Phones?

Interesting thoughts?

Types of Leaders

- By the position achieved
- By personality, charisma
- By moral example
- By power held
- Intellectual leader
- Leader by their ability to get things done

Are you a Manager or Leader?

- Managers Focus:
  - Things, doing things right
  - Planning and organizing
  - Direct and control
  - Follow the rules set by the leaders

Leaders

- Focus on People
- Do the Right thing
- Inspire and influence others
- Motivate and build
  - Shape the future and plan of the entities they are involved in

Ultrasound….Here and more coming…..

New Ultrasound?---
"Another tool to distinguish us from the CRNA"
Ultrasound speeds up safety and how well and effective your block is…

Increase Public Relations and Productivity.

Spinal and Epidural Placement

Epidural catheter placed detected by flouroscopy

Ultrasound and Anesthesia

Ultrasound Cheap?--Interson

We continue to revolutionize imaging devices

U-blok—SeeMore Software…. Nanomaxx-Sonosite

Did you realize?

- There are nearly 50 basic airway tools…

- That doesn’t even count the multiple variations of these tools and other tools not cited in the May 2012 Airway update

- Pick 3-6 and get really good!

- New school of thought coming out!

The Airway Part - 2

- Techniques attempted in difficult airway regardless of predicted difficulty:
  - Management Strategy Frequency
  - Persistent nonsurgical attempts 77 percent
  - Surgical airway attempted 29 percent
  - Case canceled 13 percent
  - Return to spontaneous ventilation 12 percent
  - Patient awakened 11 percent
  - Proceed under mask GA 6 percent
  - Change to regional, local or MAC 2 percent

- The most common management strategy was persistent nonsurgical attempts. Of note, closed claims reviewers considered most of these repeated attempts to be inappropriately persistent.

- It should be noted that the LMA was not a common option when these claims occurred.
Tonsillectomy and Adenoids

- This is a airway issue....
- Perfect conditions should be present ask about 2nd and 3rd hand smoke and URI's
- LMA vs ETT
- Use of a pre-op anticholinergic
- Post-op bleeding.
- Pain control is very important

- OSA>>>> increased improvement
  - in school and from post meals

LMA is the best way to go!!—OFIRMEV!

Laryngeal Mask
Mid-Line, Supine

- Adult and pediatric sizes
- Inserted into hypo pharynx, passed downward behind larynx, sealing glottic opening and enabling ventilation after cuff inflated
- Slight bulging in tissues overlying larynx indicates mask in position
- Allows positive pressure ventilation, can support airway when trachea can't be visualized
  - “Can’t intubate/can’t ventilate” scenario
- Does not protect against regurgitation/aspiration
- Requires anesthesia for placement

BIG LAWSUIT FOR NOT FOLLOWING PACKAGE INSERT
September 2013; Verdict was for the plaintiffs for: $8,541,809

LMA Cost Savings!

- If we do 5 cases with a Classic LMA per day this costs:
  - 5 (per day) x 5 (days/wk) x 52 (wks/year) =
  - 1300 LMAs x $ 6.5 = $8,450
- If we instead choose a Supreme LMA for all of these:
  - 1300 x $ 18.5 = $24,050
  - Classic LMA $ 6.5
  - Flexible LMA $ 12.0
  - Supreme LMA $ 18.5

Airway?

SEDASYS Propofol Sedation

- The system aims to replace anesthesiologists and CRNAs with computerized technology to administer propofol and to monitor minimal-to-moderate sedation in patients undergoing upper and lower endoscopies. According to the company, only ASA class I and II patients are eligible to receive propofol via SEDASYS

Pulled from the market 2016
**Check out pump with tracking?**

**Chemical Hemostasis**

**Hemostasis Monitoring:**
TEG Hemostasis System
- Whole blood test
- Measures hemostasis
  - Clot initiation through clot lysis
  - Net effect of components
- TEG system
- Laboratory based
- Point of care
- Remote, can be networked
- Flexible to institution needs

**Simulations?**

**Simulations?**

**Loyalty—Membership AANA**
- Up, down or sideways...
- Be and develop loyalty to your front line soldiers

Are you a chief that still takes call?
Pick the Right People

- How do you accomplish the great things? You do this by attracting the best people.
- People aren’t part of the puzzle they are the puzzle

They are the solution to the puzzle

Listen

- Good listening begets good listening. Ideas then exchange faster and more reliably.
- Some managers get: Smaller ears and bigger mouths.

Modules:

Pacing -- Communication
Joint Commission –60%

- Matching whom you see!
- Decrease perceived differences!
- Create a shared experience between you an the another person
  - Develop Common Ground!—Compromise is not a bad word! Despite what Washington DC Says!

Back Tracking
ACLS focuses on closed loop communication

- Repeat what someone says, instead of saying what you think they mean
- Completes communication
- Lets people know you value them
- Lets people know they were heard
- Eliminates variables

Clarification

- Seek to make clear…
- Focus on the other person
- Understand the meaning
- Be complete what they say..
  - What—subject
  - Who—subject
  - Where—location
  - When—time element
  - How—activity
“Anesthesia given”
“Surgery performed”

Computer Charting.. IT is here!
Why Not?
Biggest reason why not?
http://www.epic.com/software-index.php

Health records—Katrina?
Health Information Technology, Economic and Clinical Health Act with is part of the American Recovery Reinvestment Act of 2009 ($19.78 Billion)

- Health records will lead to major healthcare savings, reduce costs, increase patient safety and improve health!
- Electronic, lifelong, perhaps recording all food and drink consumption, exercise, etc
- Accessible from anywhere
- Linked to other records, like social care
- Multimedia
- Collect information from sensors in the body or home
- Data mined
- But beware Big Brother....
- Tracking Shopping records?
  - Who’s Prescribing the Most Hydrocodone in Your Area?
    - http://www.propublica.org/article/whos-prescribing-the-most-hydrocodone
    - Who’s Prescribing the Most Hydrocodone in Your Area?

What is YOUR time worth?

- Are we thinking about the benefit of our time?
- Are we being productive?
- What is your time worth?

- Your time is worth $2-$4 per minute
- But; you need to be productive!
- What is the average utilization?
- Get a anesthesia tech...
- Increase your utilization
You need to be productive and Safe!

Always ask ourselves!

What does tomorrow hold..

What generation are you?

Facebook and the Internet…

Interviews… Google…tumblr….instagram…and so many many many more??

Next Year….We will see!

Patient Centered Teams

Pilot Study: High efficiency Operating Rooms—In 1997, Fairview Health Services purchased the University of Minnesota Hospitals and Clinics from the state of Minnesota

New Pilot, UW of Wisconsin Orthopedic Hospital

Surgical Home—Concept?

Lateral—Work Place Bully

Definition

Bullying is deliberate or intentional behavior using words or actions, intended to cause fear, intimidation or harm. Bullying is a repeated behavior and involves an imbalance of power. The behavior may be motivated by an actual or perceived distinguishing characteristic, such as, but not limited to: age, national origin, race; ethnicity, religion, gender; gender identity; sexual orientation; physical attributes; physical or mental ability or disability; and social, economic or family status.

Bullying behavior can be:

1. Physical (e.g. assault, hitting or punching, kicking, theft, threatening behavior)
2. Verbal (e.g. threatening or intimidating language, teasing or name-calling, racist remarks)
3. Indirect (e.g. spreading cruel rumors, intimidation through gestures, social exclusion and sending insulting messages or pictures by mobile phone or using the internet – also known as cyber bullying)

Lateral Violence

57% report verbal abuse
43% experience threatening body language
53% put down by supervisor
40% of abused victims forced to ignore errors or medication errors

Shortage can be related to lateral violence
Robotic Surgery:
- Prostate
- Hysterectomy
- Tonsils...and more
- Heart—Colon—Lymph nodes.

Selections from Healthcare 2020
Beyond electronic patient records to “health biographies”

Cyberproviders—Virtual Visits
Moving from information to knowledge

E-Health
M-Health
I-Health
E-Therapy

Information and health: technological developments
- “Think for itself hardware” and self-generating software by 2020
- Wearable computers; “intelligent clothing”
- Personal agents—“digital butlers”; smart sensing
- Electronic circuitry can be connected to nerves and tissues

Is it time for bracelets?

Are scrubs going away?

Surgical site infections are an important complication resulting from surgery. Before the 20th century a significant number of surgeries resulted in death from sepsis. One of the rituals resulting from efforts to reduce infection is the donning of surgical garb. A large body of literature has developed on the efficacy of these specialized garments. The available evidence for the efficacy of each individual garb at reducing surgical site infections will be explored. The relevance of this evidence to the outpatient dermatologic surgery setting will also be discussed.

Trentman TL, Franci P, Molen A. Utility of letters sent to patients after difficult airway management. J Clin Anesth. 2004;16:257-61. Heidi M. Koenig, MD, is a Professor of Anesthesiology and Perioperative Medicine at the University of Louisville, Louisville, KY.
Infomediaries: doc.coms

- People will be able to use doc.coms to:
  - Ask questions
  - Interact with others with similar interests
  - Use software that will help with health risks
  - Use decision support systems
  - Consult with professionals
  - Access their own health records
  - Buy health related products

CRNA’s of Tomorrow!

- Pain Management
- Pre-operative Care
- Hospice management
- Continuum of care provider, ER to Recovery
- OR management and Leadership
- Healthcare leadership/Hospital CEO

Lead, follow or get out of the way…
  Lead from the front!

The Cloud!

Thanks, Peter
pstrube3000@yahoo.com

Final Thoughts

Technology has been evolving so rapidly, the emphasis has been on functionality, not reliability—This will (need) to change!

To quote an true American icon….

Uncle Ben “With great power comes great responsibility.”
Act and Behave wisely!

Questions?