The Darkest Hour: Anesthesiologists as Second Victims

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Roadmap for Discussion

- Definitions
- Prevalence & Impact
- Coping Strategies
- Institutional Support
To Err is Human (or is it?)

• Institute of Medicine report (2000)
  – 44,000 - 98,000 deaths attributed to errors annually
  – $17-29 billion annually
Definition of “Second Victim”

“A health care provider involved in an unanticipated adverse patient event, medical error and/or patient-related injury who becomes victimized in the sense that the provider is traumatized by the event. Frequently second victims feel personally responsible for the unexpected patient outcomes and feel as though they have failed their patient, second guessing their clinical skills and knowledge base.”

(Scott et al., Qual Saf Health Care, 2009)
Description of “Second Victims”

“Many errors are built into existing routines and devices, setting up the unwitting physician and patient for disaster.

And, although patients are the first and obvious victims of medical mistakes, doctors are wounded by the same errors: they are the second victims” (Wu et al., West J Med, 2000)
“Virtually every practitioner knows the sickening feeling of making a bad mistake. You **feel singled out and exposed** – seized by the instinct to see if anyone has noticed. You **agonize about what to do**, whether to tell anyone, what to say. Later, the **event replays itself over and over** in your mind. You **question your competence** but fear being discovered. You know you should confess, but dread the prospect of potential punishment and of the patient’s anger.” (Vincent, NEJM, 2003)
Second Victim Phenomena

Scenarios for Second Victims

- Connection to a patient or their family
- Pediatric cases
- Medical errors
- Failure-to-rescue cases
- First death experiences
- Unexpected patient demise
Second Victims Summarized

• Healthcare providers who face unexpected patient outcomes are also victimized
• Life and/or career changing events
• “…the darkest hour of one’s professional career”
Roadmap for Discussion

1. Definitions
2. Prevalence & Impact
3. Coping Strategies
4. Institutional Support
How common is this phenomenon?

- Varies from 10.4% to over 30-43%
- Severity (Wolf et al., Clin Nur Specialist, 2000)
  - Nearly 41% reported *moderately harmful* effects
  - Roughly 2.5% described a *severe impact* on their personal lives
Figure 1. Physicians' lives were more likely to be affected as error severity increased. * Chi-square tests; \( p < .001 \) level.

Waterman (Jt Comm J Qual Patient Saf, 2007)
<table>
<thead>
<tr>
<th>Physical symptoms</th>
<th>n (%)</th>
<th>Psychosocial symptoms</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme fatigue</td>
<td>16 (52)</td>
<td>Frustration</td>
<td>24 (77)</td>
</tr>
<tr>
<td>Sleep disturbances</td>
<td>14 (45)</td>
<td>Decreased job satisfaction</td>
<td>22 (71)</td>
</tr>
<tr>
<td>Rapid heart rate</td>
<td>13 (42)</td>
<td>Anger</td>
<td>21 (68)</td>
</tr>
<tr>
<td>Increased blood pressure</td>
<td>13 (42)</td>
<td>Extreme sadness</td>
<td>21 (68)</td>
</tr>
<tr>
<td>Muscle tension</td>
<td>12 (39)</td>
<td>Difficulty concentrating</td>
<td>20 (65)</td>
</tr>
<tr>
<td>Rapid breathing</td>
<td>11 (35)</td>
<td>Flashbacks</td>
<td>20 (65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss of confidence</td>
<td>20 (65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grief</td>
<td>20 (65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remorse</td>
<td>19 (61)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Depression</td>
<td>17 (55)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Repetitive/intrusive memories</td>
<td>16 (52)</td>
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<tr>
<td></td>
<td></td>
<td>Self-doubt</td>
<td>16 (52)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Return to work anxiety</td>
<td>15 (48)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Second guessing career</td>
<td>12 (39)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fear of reputation damage</td>
<td>12 (39)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Excessive excitability</td>
<td>11 (35)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Avoidance of patient care area</td>
<td>10 (32)</td>
</tr>
</tbody>
</table>

Scott et. al. (Qual Saf Health Care, 2009)
Resident Self-Report of Errors

• **34% made at least 1 error** during 3 year study
  – (West et al. JAMA, 2006)

• **41% reported adverse event or near miss in the preceding week**

• **45% made one mistake during training**
  – (Wu et al. West J Med, 1993)

• **47% made serious error(s) during training**
The Impact of Perioperative Catastrophes on Anesthesiologists: Results of a National Survey

Farnaz M. Gazoni, MD, Peter E. Amato, MD, Zahra M. Malik, MD, and Marcel E. Durieux, MD, PhD

• Survey of 1200 ASA members
• 56% response rate
• 62% reported in last 10 years
  – Mean: 2.8 events
• 84% reported over career
  – Mean: 4.4 events

Table 2. Definitions of “Perioperative Catastrophe”

<table>
<thead>
<tr>
<th>Type of event</th>
<th>Percentage who felt event qualifies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>93%</td>
</tr>
<tr>
<td>Cardiac arrest</td>
<td>88%</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>53%</td>
</tr>
<tr>
<td>Intraoperative awareness</td>
<td>38%</td>
</tr>
<tr>
<td>Positioning or nerve injury</td>
<td>36%</td>
</tr>
<tr>
<td>Seizure</td>
<td>20%</td>
</tr>
<tr>
<td>Stroke or other brain injury</td>
<td>75%</td>
</tr>
<tr>
<td>Perioperative visual loss</td>
<td>67%</td>
</tr>
<tr>
<td>Wrong site/wrong patient</td>
<td>66%</td>
</tr>
</tbody>
</table>

Given a list of possible events, respondents chose which events they felt were “perioperative catastrophes.”
Figure 2. Emotional impact of a “most memorable” perioperative catastrophe. Respondents were asked to what extent they had experienced the items listed on the y-axis. The x-axis shows adjusted percentage who experienced either “a lot” or “a little” of the item in question.
Figure 3. Time to emotional recovery after index case. Respondents were asked how long after the event it took to recover emotionally. Adjusted percentage of respondents who chose each of the time periods is shown.

- 67% Affected
- 19%
Figure 4: Perceived impact on quality of subsequent patient care. Respondents were asked to what extent their ability to provide anesthesia care was compromised at various time periods after an index case. The y-axis shows adjusted percentage of providers who felt their ability was compromised either "a lot" or "a little."

Impact on Quality of Subsequent Care

67%

The Impact of Perioperative Catastrophes on Anesthesiologists: Results of a National Survey

Farnaz M. Gazani, MD, Peter E. Amato, MD, Zahra M. Malik, MD, and Marcel E. Durieux, MD, PhD
Scott’s Second Victim Recovery Trajectory

Stage 1: Chaos and Accident Response
Stage 2: Intrusive Reflections
Stage 3: Restoring Personal Integrity
Stage 4: Enduring the Inquisition
Stage 5: Obtaining Emotional First Aid
Stage 6: Moving On

Impact Realization

Thriving
Surviving
Dropping Out

Scott et. al. Qual Saf Health Care, 2009

MEDICAL SCHOOL UNIVERSITY OF MICHIGAN
Stage 1 – Chaos and Accident Response

• Characteristics
  – Error realized/event recognized
  – Tell someone get help!
  – Stabilize/treat patient
  – May not be able to continue care of patient
  – Distracted

Why did that happen?

How did that happen?
Stage 2 – Intrusive Reflections

- Characteristics
  - Re-evaluate scenario
  - Self-isolate
  - Haunted re-enactments of event
  - Feelings of internal inadequacy

Could this have been prevented?

What did I miss?
Stage 3 – Restoring Personal Integrity

• Characteristics
  – Acceptance among work/social structure
  – Managing gossip/grapevine
  – Fear is prevalent

What will others think?

Am I in trouble?
Stage 4 – Enduring the Inquisition

• Characteristics
  – Realization of level of seriousness
  – Reiterate case scenario
  – Respond to multiple “why’s” about the event
  – Interact with many different event responders
  – Understanding event disclosure to patient/family
  – Physical and psychosocial symptoms

What happens next?

Who can I talk to?

How do I document?
Stage 5 – Obtaining Emotional First Aid

- Characteristics
  - Getting/receiving help/support
  - Litigation concerns emerge

Do I need help?

What is wrong with me?
Second Victim Recovery Trajectory

Stage 1: Chaos and Accident Response
Stage 2: Intrusive Reflections
Stage 3: Restoring Personal Integrity
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Stage 5: Obtaining Emotional First Aid
Stage 6: Moving On

Impact Realization

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Surviving
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Scott et. al., 2009
Stage 6 – Moving On

**Thriving**
What can I learn from this?

**Surviving**
Why do I still feel so badly/guilty?

**Dropping Out**
Is this the profession I should be in?
Roadmap for Discussion

1. Definitions
2. Prevalence & Impact
3. Coping Strategies
4. Institutional Support
“Physicians must be able to recognize how and when their personal distress affects quality of patient care (both delivery of care and emotional support of patients and families)…*Silence on career distress, as a strategy, simply does not work.*”

Balch, 2010
What Second Victims Desire...
Coping Strategies

• Problem-focused
  – Accept responsibility for mistake
  – Discuss with colleagues
  – Disclose and apologize to the patient
  – Conduct an error analysis
  – Make changes in practice setting
  – Work at local and national levels to effect change

• Emotion-focused
  – Communication focus (one-on-one, support groups, religious advisors, diary for personal reflection)
  – Keeping to established routines and healthy behaviors
  – Finding hobbies
  – Avoiding major life decisions
  – Taking time off
  – Enhancing meaningful work
# Coping Strategies

<table>
<thead>
<tr>
<th>Defensive Changes</th>
<th>Constructive Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep error to oneself</td>
<td>Ask a colleague what they would have done</td>
</tr>
<tr>
<td>Avoid similar patients</td>
<td>Seek more advice</td>
</tr>
<tr>
<td>Thoughts about leaving practice</td>
<td>Reading more carefully</td>
</tr>
<tr>
<td>Ordering more tests</td>
<td>Increasing education</td>
</tr>
<tr>
<td></td>
<td>Double-checking work</td>
</tr>
</tbody>
</table>
Maladaptive Coping

• Denial
• Distraction with increased workload
• Obsessive rumination
• Finger-pointing or blaming
• Emotional eating
• Decreased self-care
• Emotional withdrawal

• Anger
• Self-medication
• Suicidality
### Table 2 Physicians’ coping strategies and how they relate to emotional exhaustion

<table>
<thead>
<tr>
<th>Physicians’ coping strategies while at work</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coping strategies that are correlated with a lower frequency of emotional exhaustion</strong></td>
</tr>
<tr>
<td>Take a time out ((r = -0.18; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Use humor to lighten the situation ((r = -0.11; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Talk it over with colleagues ((r = -0.11; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Make a plan of action ((r = -0.10; \ p = 0.001))</td>
</tr>
<tr>
<td><strong>Coping strategies that are correlated with a higher frequency of emotional exhaustion</strong></td>
</tr>
<tr>
<td>Keep stress to myself ((r = 0.23; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Concentrate on what to do next ((r = 0.16; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Go on as if nothing happened ((r = 0.07; \ p &lt; 0.0001))</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physicians’ coping strategies after leaving work</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coping strategies that are correlated with a lower frequency of emotional exhaustion</strong></td>
</tr>
<tr>
<td>Set aside quiet time outside of work ((r = -0.22; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Find time to exercise ((r = -0.21; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Spend time with family outside of work ((r = -0.19; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Leave work at work ((r = -0.17; \ p &lt; 0.0001))</td>
</tr>
<tr>
<td>Talk about stress with spouse ((r = -0.06; \ p = 0.001))</td>
</tr>
<tr>
<td><strong>Coping strategies that are correlated with a higher frequency of emotional exhaustion</strong></td>
</tr>
</tbody>
</table>

*Lemaire & Wallace (BMC Health Serv Research, 2010)*
Talk about it…

- Helps to acknowledge emotions
- Corrects dysfunctional thinking
- Decreases risky behaviors including self-medication

- Who can help?
  - Experienced colleagues
  - Significant other
  - Physician support groups
  - Personal physician
Mindfulness

• To Thrive…
  – Stop obsessing
  – Stop kicking yourself
  – Embrace resilience

• Benefits of learning mindfulness
  – Letting go of worries
  – Non-judgmental self-compassion
When to Seek Help

• Anxiety or distress interferes with daily work and relationships

• Remain preoccupied with the event

• Self-medicate or abuse other substances

• Colleagues, friends or family comment on changes in behavior

• Significantly diminished work satisfaction

• New or exacerbation of old physical symptoms
Roadmap for Discussion

- Definitions
- Prevalence & Impact
- Coping Strategies
- Institutional Support
How Can We Better Care for Our Own?

- Avoid blaming
- Errors are often systems-issues
- Institutional awareness promotes open dialogue

“Clinical support must become a predictable, expected part of a healthcare organization’s operational response to unanticipated clinical events.”

Scott et al., Jt Comm J Qual Pat Saf, 2010
Organizational Support

• Entire team has been affected
• Lack of support has dire consequences
  – Increased staff stress
  – Decreased morale
  – Increased turnover
  – Diminished organizational culture
  – Costly

Institutional potential for loss

Healthcare providers

Patient and families
Brigham Model

- System of provider support groups, one-on-one consultations and a hotline
- Peers trained to delivery “emotional first aid”
- Confidential
- Website: www.mitss.org
The Scott Three-Tiered Interventional Model of Second Victim Support

**Tier 1**
- “Local” (Unit/Department) Support

**Tier 2**
- Trained Peer Supporters
- Patient Safety & Risk Management Resources

**Tier 3**
- Expedited Referral Network

Established Referral Network with:
- Employee Assistance Program
- Chaplain
- Social Work
- Clinical Psychologist

Ensure availability and expedite access to prompt professional support/guidance.

Trained peer supporters and support individuals such as patient safety officers, or risk managers who provide one on one crisis intervention, peer supporter mentoring, team debriefings & support through investigation and potential litigation.

Department/Unit support from manager, chair, supervisor, fellow team member who provide one-on-one reassurance and/or professional collegial critique of cases.
Kaiser Adverse Outcome Response Model

- Request for support can be initiated by anyone
- Processes provided
  - Defusing (within 12 hours)
  - Crisis Management Briefing (24-48 hours)
  - Debriefing (48-72 hours)
  - Individual emotional support
- Follow-up
Michigan Department of Anesthesiology

• **Perioperative Catastrophes Provider Response Plan**
  – 3 Phases
    • Phase I: assess suitability for continued clinical service
    • Phase II: focus on provider support (face-to-face desired) and accurate documentation (first 24 hours)
    • Phase III: assess provider response and any new information) (2-4 weeks)
  – Diverse group members (Chair, resident/faculty/CRNA/Clinical Affairs/QA representatives, Service chiefs, OCS)
The Five Rights of a Second Victim

- **Treatment that is just**
  - No presumption of guilt or negligence
- **Respect**
  - No name-blame-shame
- **Understanding and compassion**
- **Supportive care**
- **Transparency** and the opportunity to contribute to preventing future events

Denham (J Patient Saf, 2007)
What I Learned About Adverse Events From Captain Sully
It's Not What You Think

Maryann Podwalk, MD
Department of Anesthesiology,
University of North Carolina at Chapel Hill

This is not a piece about how medicine should take a cue from aviation and incorporate simulations into training. It is not about how medicine should learn from aviation and develop emergency checklists and algorithms. It is not about how medicine should learn from aviation and improve patient safety from error reporting. No. It is not even about how medicine should learn from aviation and incorporate briefings, debriefings, and safety language models. Medicine safety culture is experiencing a bit of "aviation fatigue," and it is often noted that patients are not airplanes. Patients are not airplanes, it is true. But humans are human whether they be pilots, physicians, or patients. And so when folks say a key difference between aviation and medicine is that the plane goes down with the plane, I beg to differ. The well-being of physicians is directly tied to the well-being of their patients.

Earlier last year, I had the pleasure of speaking on the phone with Captain Chesley (Sully) B. Sullenberger III of the now-famous Miracle on the Hudson landing of US Airways Flight 1549 (May 2014). As nearly everyone knows, Captain Sully’s aircraft hit some birds shortly after takeoff, causing the plane to lose power in both engines. Some incredible emergency management ensued, with practically perfect execution by the captain, first officer, cabin crew, and air traffic control. The aircraft touched down in the middle of the Hudson River close to rescue, and no one was killed or critically injured. There was no glaring error, no mishap, no panic. By all accounts, this was an incredible save.

So why did Captain Sully tell me they “all had PTSD for several months” thereafter? Why? If Captain Sully’s years of experience had all been a cumulative preparation for this most unlikely event, and if he did just about everything right (and quickly), could he not sleep or concentrate for three months? Why did he need medications to control his racing heart and high blood pressure? Why could he not return to the skies for nearly half a year? First Officer Jeff Skiles experienced similar aftermath, according to Sully. According to testimony before Congress, even the air traffic controller Patrick Hartin had to be removed immediately from duty and was unable to return to work for about a month and reported only beginning to feel good about that event a full year later. Mr. Hartin says, “it may sound strange, but for me the hardest part of the event was when it was over. During the event I was hyperfueled... but when it was over, it hit me hard.” Captain Sully shared this sentiment, telling me that he felt in control during the event, and in shock immediately afterward, and the total impact took some time to process. The flight crew also took time away, and one flight crew member with 38 years of experience never returned. I was surprised to know that after a hugely successful demonstration of teamwork and skill, and a landmark safety save, all of the parties involved were so adversely affected. And I was impressed when Captain Sully told me that a coordinated and supportive debriefing was arranged within 24 hours for their flight team and family members, with the purpose of preparing them for emotions and physical responses they might have, and normalizing the post-event experience and timeline for emotional recovery. And then I realized, this is one thing we need to do more of.

No one would have considered pulling Sully or Skiles or the flight crew members out of the river and asking them to head back to LaGuardia and fly another leg. Yet in medicine, physicians are generally expected to continue caring for patients, sometimes without even a brief period of time to reflect or regroup. Patients suffer cardiac or respiratory arrests and other emergencies—they even sometimes die—in our operating rooms. And yet many of us feel pressure to get the next case going without delay. This may represent either explicit or implicit pressure from administrators or other team members, internal pressure on ourselves to...

People are different, of course, and not everyone will feel that their care and judgment for subsequent patients are affected by having been part of an emergency just moments before. Some will be impaired and know it, but be powerless to get relief from duty. Some will be impaired but not realize it, and trudge along like good soldiers. Some may truly not be affected at all. But we have some data that physicians and nurses are indeed adversely affected by the emotional toll of participating in emergencies, whether the outcome is good or bad, and whether mistakes are made or the execution is perfect.

Physicians are twice as likely to kill themselves as the general population, and, at least among anesthesiologists, the impact of perioperative critical events is both powerful and lasting. According to one study of anesthesiology physicians, being involved in a perioperative death or similar event caused up to 70% of those surveyed to have symptoms consistent with posttraumatic stress disorder and two-thirds to say that they believed their ability to provide safe patient care subsequently was compromised. The impact was so great in fact that nearly 20% said they never...
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Take Home Points

- Adverse outcomes cause significant mental, physical and emotional impact for physicians
- Recognition is paramount and adaptive coping strategies should be encouraged
- Institutional programs can expedite recovery and mitigate adverse career outcomes
“These are the eternal duties of a Physician: First…to heal his mind and to give assistance to himself before giving it to anyone else…”

Epitaph of an Athenian Physician, 2 A.D.
References

- J.B. Lemaire and J.E. Wallace. Not all coping strategies are created equal: a mixed methods study exploring physicians' self reported coping strategies. BMC Health Serv Resarch 2010 10:208.
JUST SO YOU KNOW, THERE’S, LIKE, A LOT OF KIDS IN HERE.