2009:
ANNUAL BENCHMARKING REPORT
Malpractice Risks in Surgery
Patients who sue their surgeons for malpractice are more frequently receiving indemnity payments, for increasingly larger amounts, according to this study of 3,300 such cases across several states over a recent six-year period.

This malpractice data study points to vulnerabilities—among all specialties—beyond the walls of the operating theatre. Surgeons and their clinical teams are found responsible for errors across the entire surgical timeline—flawed decisions to operate, technical errors in the OR, and post-operative mismanagement during recovery. Alarmingly, most of these scenarios are preventable.

The errors that lead surgery patients to allege malpractice are primarily due to narrow clinical judgment, poor technical performance, or miscommunication among team members. However they occur, they are traumatic for patients and costly for surgeons and professional liability insurers: the average cost to resolve a surgery-related case is $345,000. Even for the majority of cases closing without payment, the emotional impact on clinicians can be devastating.

Analysis of medical malpractice claims shared through the Comparative Benchmarking System (CBS) indicates that a medium-sized hospital is likely to incur five surgery cases per year. A teaching hospital in the northeast United States can anticipate nine surgical malpractice cases annually. The ambulatory setting is not immune to these risks: one in three surgery-related malpractice cases stems from an outpatient procedure.

Every stage of the surgical encounter exposes both patient and surgeon to potential pitfalls. Pinpointing where on the surgical path their patients and providers are most vulnerable to preventable errors is difficult for all organizations. Assuring their trustees that patient safety funding is being applied wisely is a challenge for many hospitals. Entities that proactively collect and study their malpractice data, however, appear to have a distinct advantage over organizations that simply react to the most recent adverse event. Participation in the CBS database offers that advantage.

“If you have good data that show why something went wrong and where the process or system failures really occurred, then you can have a fruitful interaction with your trustees, clinical leaders, and administrators. At CRICO/RMF, we provide our Board of Directors with credible data that engages them in terms they can act upon. Their support—based on our comparative data—has lead to effective and sustained remediation.”

John L. McCarthy, President, CRICO/RMF
The Comparative Benchmarking System (CBS) is populated with more than 120,000 cases and relevant denominator data. CBS comprises data from open and closed medical malpractice claims and suits reported by a wide range of academic medical institutions—including those affiliated with Harvard University, Stanford University, the University of California, and the University of Pennsylvania—as well as community-based hospitals in more than 20 states. Leading commercial insurers and captives, including The Doctors Company, Princeton Insurance, and Medstar Health, also participate. A detailed coding taxonomy enables CBS participants to precisely identify the specific contributing factors that drive medical errors. Armed with clinically relevant data, senior executives can develop targeted patient safety interventions and organizational leaders have the platform necessary to gain leverage for focus and funding. CBS is the most robust medical malpractice database in the world.

It’s the leverage that gets the ball rolling. When I take data to physicians, there’s a credibility we’ve never had before. The data is so much more valuable.
The majority of surgical claims evolve over time, preceded by cascading issues that span the operative process.

GENERAL RISKS IN SURGERY

Without a detailed study of a large sampling of malpractice data, an organization’s perception of surgical errors may default to familiar notions: a slip of the knife, faulty equipment, or a battle of egos among overly stressed clinicians. Our analysis, however, paints a different picture. The majority of surgical claims evolve over time and are preceded by cascading issues that span the operative process. Patients are at risk of (preventable) harm from the very decision to undergo a procedure through their post-op recovery at home.

Throughout the perioperative process, surgeons and other members of the care team rely on cognitive, communication, and physical skills to navigate a minefield of potential hazards. When one or more of those skills—or the systems supporting them—fails, the patient is at risk of being injured and members of the surgical team are at risk of being sued. The consequences are devastating: in 60 percent of the cases studied, the patient died or suffered a permanent injury. Some services appear more vulnerable to lawsuits than others (e.g., orthopedics, neurosurgery), but considerable variability exists between practice settings. While volume and acuity are likely drivers of such variability, detailed consideration of each case’s unique contributing factors is critical for targeting patient safety interventions.
Which surgical services are most vulnerable?

Surgery has evolved in complexity and scope almost faster than we clinicians have realized. We now provide 2,500 different surgical procedures, and making them go safely and well has involved ever larger teams, ever more advanced technologies, and skills of not just technique but also teamwork. Making our systems of care work smoothly for our patients and clinicians has only gotten more difficult. We are in a transition from functioning primarily as fragmented, individual actors to functioning as actual teams. We’re still learning what is necessary and what is possible. — Atul Gawande, MD, MPH, Harvard School of Public Health

How often do surgical patients sue?
The successful surgeon must judge if the patient has realistic expectations for the results of the procedure.

PRE-OPERATIVE RISKS

After CBS data revealed vulnerabilities in their neuro- and orthopedic surgeons’ informed consent conversations, one participating organization gained Board-level support and funding to implement a proven off-the-shelf program that uses interactive media to engage patients in the consent process.

Long before they don their scrubs and pick up a scalpel, surgeons encounter risks in their offices. First, he or she must collect and accurately evaluate all available diagnostic data to identify the most suitable surgical course, being careful to avoid common traps of clinical judgment. Too narrow a surgeon’s diagnostic focus and the patient undergoes an inappropriate procedure, one poorly tailored to her distinct clinical needs. The successful surgeon must consider many factors: Is this particular patient an appropriate candidate for this procedure—can she tolerate the rigors of surgery and will she benefit in the long run?

Next, the surgeon must ascertain whether or not the patient understands the procedure, its alternatives and limitations, and its potential complications. When a malpractice claim or suit is filed, there is often agreement between plaintiff and defendant that a consent discussion took place before the procedure. In retrospect, however, they will disagree on the breadth, depth, and tenor of that discussion. Here, the perfect storm has the potential to brew: the patient’s interest in being pain free—in returning to pre-injury level of physical and emotional function, and the surgeon’s interest in meeting those expectations.

The successful surgeon must judge if the patient has realistic expectations for the results of the procedure, or will she be disappointed by a “successful” surgery that falls short of an unreasonable postoperative vision. Simulation training is emerging as an effective tool to improve physicians’ communication skills and manage the ever-increasing stakes of informing and engaging patients. Frequently, mishandling one or more pre-operative step exposes the surgeon to allegations of malpractice when the patient is disappointed—fairly or unfairly—with the outcome of the procedure.
THE ROLE OF CREDENTIALING IN RISK MITIGATION

Institutions that perceive credentialing and privileging strictly as a mechanical function, rather than an essential patient safety process, undervalue it. Verifying and assessing a physician’s background, experience, and skills provides an unparalleled opportunity to identify fundamental risks in the care continuum. Diligent credentialing and privileging protects patients and staff from being sued for patient injuries stemming from care provided by an unqualified or disruptive clinician practicing under their auspices.

Mount Auburn Hospital has employed the lessons learned from a highly-publicized series of incidents to overhaul its credentialing and privileging process—placing the onus and accountability for a fully completed and truthful application on the applicant. Those changes protect patients as well as the hospital, other employees, and physicians on staff.

Jeanette G. Clough
Mount Auburn Hospital
Cambridge, MA

Are your surgeons making errors in clinical judgement before they operate?

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<thead>
<tr>
<th></th>
<th>INACCURATE DIAGNOSIS</th>
<th>INAPPROPRIATE PROCEDURE</th>
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<tbody>
<tr>
<td>ACADEMIC MEDICAL CENTERS</td>
<td>6%</td>
<td>19%</td>
</tr>
<tr>
<td>COMMUNITY HOSPITALS</td>
<td>8%</td>
<td>24%</td>
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Are your surgery patients adequately informed about the risks of their surgery?

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<thead>
<tr>
<th></th>
<th>INADEQUATE INFORMED CONSENT: INPATIENT</th>
<th>INADEQUATE INFORMED CONSENT: OUTPATIENT</th>
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<tbody>
<tr>
<td>SMALL HOSPITALS &lt;5,000 SURGERIES/YEAR</td>
<td>8%</td>
<td>7%</td>
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<tr>
<td>MEDIUM HOSPITALS 5,001-10,000 SURGERIES/YEAR</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>LARGE HOSPITALS &gt;10,001 SURGERIES/YEAR</td>
<td>13%</td>
<td>12%</td>
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CASE EXAMPLES

14 YR. OLD

A 14-year-old boy with ulcerative colitis died after undergoing a surgical procedure that was performed despite being contraindicated by his differential diagnosis. ($1 million payment)

15 YR. OLD

A 15-year-old girl with a history of obesity and severe sleep apnea died one day after tonsillectomy/adenoidectomy. Further evaluation revealed a limited pre-operative assessment, failure to note signs of acute pre-operative pneumonia, and inappropriate selection of the surgical procedure. ($1 million payment)

44 YR. OLD

A 44-year-old male, above the recommended weight limit for gastric bypass surgery, sought a second opinion and was consented for the laparoscopic procedure. Despite limited pre-operative testing hampered by his weight, the patient underwent an open procedure—for which he had not given consent—and died during surgery. ($1 million payment)
Each surgical encounter carries with it a chance of patient harm—more so than is present elsewhere in medicine.

**INTRA-OPERATIVE RISKS**

Good surgeons make technical errors; the best, however, have cultivated techniques for promptly recognizing their errors and reacting appropriately. Even so, the technical challenges are compounded by risks related to environmental and human factors.

Operating rooms are crowded and noisy. The surgeon shares space with anesthesia and nursing colleagues, perhaps residents, technicians, and an occasional sales representative. The team members may have known one another for an entire career or may have only met during the case at hand. Despite variation in the length and history of their relationships, and the potential impacts of stress, distraction, and interpersonal dynamics, each team member bears some responsibility for the procedure’s success and for raising an alarm if he or she senses trouble. Thoughtful or design and equipment layout, along with artful team communication, enhances efficiency and greatly improves the ability to overcome complications and avoid injuries and lawsuits.

**OUTPATIENT SURGERY**

Of course, not all surgical procedures take place in a hospital operating room. As the variety, complexity, and volume of outpatient procedures expands, so too do the risks to ambulatory surgery patients and providers. Inadequate credentialing, protocols, systems, and staffing to respond to complications in an outpatient setting can unnecessarily compromise patient safety and endanger providers.

**NEVER EVENTS**

In any setting, the most egregious surgery malpractice cases involve inexcusable mistakes: operating on the wrong patient, the wrong body site, or failing to remove a piece of equipment. The lay public struggles to understand how such errors can occur, and despite the “stick” approach of non-reimbursement for these “never events,” they account for nine percent of the surgery claims in the CBS database. Better understanding of which human factors impact a given or culture (and how) may better guide “carrot” approaches to diminishing the prevalence of surgical never events.
Are your surgeons plagued by technical errors?

<table>
<thead>
<tr>
<th></th>
<th>INTRAOPERATIVE COMPLICATIONS</th>
<th>POOR TECHNIQUE</th>
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<tbody>
<tr>
<td>ACADEMIC MEDICAL</td>
<td></td>
<td></td>
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<tr>
<td>CENTERS</td>
<td>27%</td>
<td>9%</td>
</tr>
<tr>
<td>COMMUNITY HOSPITALS</td>
<td>29%</td>
<td>17%</td>
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Is inadequate surgical team communication contributing to patient harm?

10% of surgery patients who allege malpractice experienced poor communication

CASE EXAMPLES

45 yr. old
A 45-year-old man undergoing a disc excision was paralyzed following a resident’s technical error. Further evaluation revealed a dangerous combination: a resident with limited training insufficiently supervised by his attending. ($2 million payment)

23 yr. old
A 23-year-old female suffered significant permanent neuromuscular deficits after she underwent a mitral valve repair by an attending surgeon with limited experience performing minimally invasive procedures. Revision of the procedure—necessitated by post-op complications—revealed poor surgical technique. ($2 million payment)

43 yr. old
Failure to obtain an intra-operative consult for evaluation of abnormally-appearing anatomy led a 43-year-old female to suffer a missed vessel injury during hemicolectomy. She suffered ischemia, sepsis, and loss of her small bowel. ($2 million payment)

Myriad factors converge when a surgeon takes scalpel to flesh: How has this surgeon, this OR, and this surgical team been tested to ensure their capacity to manage the clinical events that could unfold? Simulation-based training is emerging as an effective method to answer these questions with more certainty. CBS data may be a most compelling driver.

To address the technical issues emerging with the growth of minimally invasive surgeries, the Society of American Gastrointestinal Endoscopic Surgeons offers the Fundamentals of Laparoscopic Surgery (FLS) program: a comprehensive, web-based education module that includes a hands-on skills training component and assessment tool. Providing objective assessment of technical skills, this program can be suc-
The need for readmission can be inferred by a dissatisfied patient as evidence that something “went wrong” during surgery.

POST-OPERATIVE RISKS

Surgery patients may be even more vulnerable to lasting harm during the post-operative phase than they are during the actual procedure. Not only has the post-op patient been transferred from one team of caregivers to another, so too has the information about the patient’s condition and what happened during the procedure. Opportunities for critical information falling through a gap in that handoff abound.

At the same time, as the patient is moving from or to PACU to floor to home, certainty often diminishes around who is monitoring the patient’s progress and who is responsible if complications arise. For the nurses, residents, and even family members responsible for the patient in this phase, distinguishing symptoms of a complication from the natural course of recovery is not always black and white. Any missteps or delays in recognizing and responding to complications can undermine all of the benefits of a successful surgery, or leave the patient worse off than before.

Most surgery patients are not fully recovered upon discharge, and many have co-morbidities that still require medical attention. While the recovery team is focused on the patient’s post-op care, secondary health issues may not receive appropriate attention or follow up. This is a subtlety patients may be unable to understand, or unwilling to accept if they suffer a lasting injury after they’ve been discharged. The need for readmission—whether for post-op complications or unrelated health problems—can be inferred by a dissatisfied patient as evidence that something “went wrong” during surgery.
Are your providers effectively monitoring post-op patients and communicating critical changes in condition?

<table>
<thead>
<tr>
<th></th>
<th>Patient Monitoring, Physiological Status</th>
<th>Communication Among Providers Regarding Patient Condition</th>
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<tbody>
<tr>
<td><strong>PERCENT OF CASES</strong></td>
<td></td>
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</tr>
<tr>
<td>General Surgery</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>10%</td>
<td>14%</td>
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Are your post-op patients being appropriately followed and discharged?

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<thead>
<tr>
<th></th>
<th>Inadequate Assessment Leading to Premature Discharge</th>
<th>Failure to Respond to Patient Concerns</th>
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<tr>
<td><strong>PERCENT OF CASES</strong></td>
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<td>5%</td>
<td>12%</td>
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<tr>
<td>Neurosurgery</td>
<td>11%</td>
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**CASE EXAMPLES**

A 35-year-old male died five days after gastric bypass. His post-op management was complicated by the lack of a physician at the bedside, the absence of an appropriate physical exam, and failure to appreciate the clinical signs of the patient’s rapid decline. ($1 million payment)

A 58-year-old male laminectomy patient was left with permanent disabilities when resolution of an epidural hematoma was complicated by narrow diagnostic focus and team confusion. ($3 million payment)

A 4-year-old boy undergoing a craniotomy died post-operatively. Lack of role clarity, disagreement among team members, and failure to escalate hampered management of his post-op seizures. ($2 million payment)
Patients want and need someone to acknowledge their situation, to explain what happened—to apologize—and to assure them that the underlying problem is being investigated and will be fixed.

DISPOSITION

Although the causes of surgical error are diverse and multifactorial, through the eyes of injured patients, the reasons why are often irrelevant. That it happened at all—and that it happened to them—is now their story. They want and need someone to acknowledge their situation, to explain what happened—to apologize—and to assure them that the underlying problem is being investigated and will be fixed.

Disclosure, apology, and remedial patient safety improvement projects will not thwart every malpractice filing. But timely disclosure and apology demonstrates accountability, and can rebuild trust between the injured patient or family and the responsible caregivers and institution. That communication and trust can impact the patient’s decision to seek compensation, or temper the claims resolution process.

To a surgical service or an entire health care organization, one surgical error may appear as a unique lightning strike. Some events are anomalous, but most are signals of larger storm clouds of vulnerability. Studying malpractice events benchmarked against real-time signal data collected through incident reports, patient complaints, and other surveillance tools is the first step in triangulating patient safety hazards. Additional comparative benchmarking with peer organizations’ aggregated malpractice data through CBS serves to further frame the context of an organization’s risk and allows for targeted application of patient safety efforts.
Patients who sue their surgeons are increasingly receiving an indemnity payment.

For 3,224 surgery-related malpractice cases closed from 2003-2008

28% CLOSED WITH A PAYMENT ≥ $1MIL.

AVERAGE COST OF CASES CLOSED WITH PAYMENT = $345,000

TAKING ACTION

After analysis of CBS data indicated that there were opportunities to improve communication related to adverse outcomes, one northeastern U.S. hospital developed a specific training course for disclosure and apology using their simulation center.

The likelihood of a surgical error evolving into a malpractice claim may depend more on what happens after the precipitating event than before it. Innovative approaches for responding to a surgical error can salvage a patient’s broken trust and steer individuals, departments, and organizations towards systemic performance improvement.

Like drills for rare clinical events, simulation-based training can help surgeons hone the skills necessary for appropriate and compassionate disclosure of an error to a patient. In the example above, the training employed actors as patients and involved expert evaluation of clinicians’ videotaped disclosure conversations. At first controversial, the practice has now spread to include multiple surgical and medical specialties.
WORKING TOGETHER FOR SOLUTIONS

Hospitals armed with the appropriate data can better determine where to focus their energy and resources along the surgery patient’s path. But they don’t need to start from scratch. Organizations that share malpractice data via the CBS database also share the successful strategies they’ve developed to tackle some of the most vexing—and most common—problems. Some examples:

LEADERSHIP
Leveraging data to promote simulation-based team training

In an effort to reduce risks for surgeons and their patients, RMF Strategies is gathering physicians, insurers, and thought leaders from the American College of Surgeons, AHRQ, and the Center for Medical Simulation (Cambridge, MA). The goal is to employ CBS data to support the advancement of simulation-based team training for surgical patient safety. Collaboration among these key organizations will promote use of current simulation-based training programs and accelerate development of new modules. The opportunity to leverage data, and convene key entities to invest in standardized practical, hands-on training environments may lead to significant declines in patient injuries.

COLLABORATION
Competitors unite to improve communication

The surgical chiefs representing the Harvard teaching hospitals meet regularly to better understand the nature of malpractice claims naming surgeons and to explore tactics for preventing future adverse events. They regularly look at their own (and each other’s) malpractice data and, based upon the revealed vulnerabilities, they join together to find shared practical solutions for their common problem areas. Genuine competitors are true collaborators. One of their first accomplishments was development of the Communication Trigger Card.

In 2007, the Harvard surgical chiefs set their sights on the overarching issue of breakdowns in communication between residents and attending

“From the attendings’ point of view, virtually all of them thought they were being notified of any change in status of the patient. From the residents’ point of view, they thought they were calling when it was appropriate, but didn’t want to bother or disturb attendings. What the introduction of the [trigger] card did was codify to both sides that, one, communication is welcome; and two, communication is expected.”

Dr. Michael Zinner, Brigham and Women’s Hospital, Boston
surgeons. After considering all potential causes of the resident-attending communication gap, the chiefs recommended a “trigger card” which lists specific criteria for resident-to-attending communication. The trigger cards send a clear message to the house staff: attending physicians want to know what is going on with their patients—they want to be called.

**MOTIVATION**

**Rewarding efforts to improve**

In a multipronged incentive program for high-risk specialties, crico/rmf is encouraging the use of a surgical safety checklist, developing a unified curriculum and standards for simulation-based team training, and creating interactive workshops using malpractice cases to help surgeons better communicate realistic expectations to patients and families.

**TECHNOLOGY**

**Utilizing safer systems (RFID)**

Surgeons and or staff understand the real risks of retained surgical sponges and instruments at the close of a procedure. The Hospital of the University of Pennsylvania (HUP) recognized that the accuracy of their pre- and post-operative surgical count was being hampered by the ever-hurried or environment and the inevitable dilution of focus that comes with multiple complex and stressful cases per day. Radio-Frequency Identification (RFID), use of tagged sponges and a detection wand, has served to reinforce the counting skills of busy or staff. Using an RFID scanner following the operative procedure, surgeons can quickly locate tagged sponges retained in the patient’s body, swiftly deflecting a complication—or lawsuit—stemming from a retained foreign body. HUP found that although this technology required an initial monetary investment, the more critical investment was one made in the safety and reputation of the entire organization.

**EXCHANGE**

**An inventory of innovations**

Collaboration among health care institutions participating in the CBS database extends from sharing data to sharing solutions that demonstrate a significant impact in patient safety. To date, more than 40 robust best practices have been vetted through an evaluation process to assess their ability to be operationalized within an organization, transferred between departments, and measured to assess their impact. While every solution is not right for every organization, crico/rmf and its partners can help institutions select the solution that aligns with both their patient safety priorities and culture.

“Checking and checking doesn’t prevent this from happening, even if you’re incredibly vigilant. Payouts on retained bodies may not be gigantic compared to other events, but these incidents make bad headlines, and imply a careless image onto the institution. We realized we should be better than this.”

Dr. James Mullen, Hospital of the University of Pennsylvania
Which of your surgical services is most exposed to the risk of malpractice allegations?

Have you had adverse events which could have been mitigated by more decisive calls for assistance or intelligence from your trainees?

Are you vulnerable to inaccurate post-operative counts? Wrong-site near-misses?

Are some of your post-operative issues the result of technical problems in your OR? Which ones?

Do you have communication issues in your OR that could be improved through teamwork training or checklists?

When the practice of surgery is observed through the lens of disconcerting malpractice data and sobering case examples, one can lose sight of the fact that adverse surgical outcomes are extremely rare. Indeed, all but a very small percentage of surgical procedures are both successful and error free.

But when things go wrong, the impact can be devastating. Litigation aside, the cost of surgical adverse events include further operations, extended lengths of stay, additional outpatient visits, and decreased trust in the health care system. And, when the root cause of errors that led to those adverse events could have been prevented, they deserve focused attention.

CRICO/RMF STRATEGIES

Since 1976, CRICO/RMF has been the medical malpractice company owned by and serving the Harvard medical community. Our data-driven approach to claims management and patient safety is the unique outcome of years of service to our members. Over time, we reached beyond the borders of our own community to create new partnerships among physicians, healthcare systems, and their medical malpractice insurers, comparing analyses of claims data, sharing effective patient safety practices, and promoting dialogue among a national community of peers. This is RMF Strategies.

For more information about the CBS database and other RMF Strategies services and products, contact: Gretchen Ruoff, MPH 617-679-1312, or gruoff@rmf.harvard.edu.