

The Story of Outpatient Surgery

Outpatient surgery is one of the defining achievements of our time. This paper tells the story of this leap forward in healthcare, especially as it occurs through the Camino Medical Group (CMG),ⁱ a division of the Palo Alto Medical Foundation (PAMF).ⁱⁱ

Before the 20th century, a patient had to be near death to risk surgery. Even major hospitals seldom reported more than one operation a month.ⁱⁱⁱ The main obstacles were:

- **Pain.** Nothing could halt the patient’s “yells and screams,”^{iv} not strong drink, marijuana or cocaine, not the distraction of a counter-irritant such as stinging nettles rubbed on the body, not even a sharp blow to the jaw, which only temporarily knocked the patient out. Even the most stoic individual required forcible restraint.
- **Infection.** Ignorant of germs, early surgeons seldom washed their hands and often invited guests to reach into the open incision and feel around. No wonder 80 percent of operations led to gangrene and nearly half of all surgery patients died.^v
- **Shock.** Without intravenous fluids, transfusions, or drugs, the patient’s blood pressure could suddenly drop, organs would then fail, and death would follow.

The second half of the 19th century brought historic changes to the operating room.

Scientists made one discovery after another that resulted in a safer, less painful surgical experience and more positive outcomes. Meanwhile, in the American Civil War, battlefield surgeons forged an array of new tools for removing bullets, which, at the time, traveled too slowly to exit the body on their own.^{vi} Peace-time applications followed. Although early surgeons tended to resist change, the benefits soon proved undeniable and, as the 20th century unfolded, surgery became increasingly commonplace, varied and complex. Moreover, the patient usually survived.

1846	Ether is used to induce sleep.
1861	Pasteur exposes airborne germs.
1867	Lister starts cleaning incisions.
1889	Surgeons start wearing gloves.
1893	Aspirin is discovered.
1894	X-rays reveal the body’s interior.
1901	The discovery of blood types makes most transfusions safe.

Before the 1980s, surgery patients faced a long, slow convalescence. Even though surgeons felt increasingly confident about operating—to locate tumors, find the source of bleeding, remove an organ, deliver a breach baby—an operation was still a big deal. The patient typically came to the hospital a day or two ahead and often stayed for weeks. Traumatized adults and children filled beds, commanding a fleet of nurses. A cataract removal could put a man flat on his back for ten days or more, with his head braced by sandbags. A diagnosis for headaches might require a spinal tap. An appendectomy could put a woman out of commission for nearly a month and leave her with an ugly scar.

Then the pace of innovation started to pick up speed, with remarkable consequences for surgery. The biggest breakthroughs were these:

- **Endoscopes.** The turning point was 1987, when surgeons successfully removed an entire gall bladder through four small cuts instead of the usual seven-inch incision. Once *these* patients were going safely home the same day as their surgery, even major skeptics had to admit it: Most routine operations no longer required a hospital stay.
- **Improved anesthesia.** With early drugs such as ether, 80 percent of all surgery patients woke up to nausea and vomiting—if they woke up at all. Then, about 25 years ago, a combination of new agents was found to do the job without inducing a dangerously deep sleep or an uneasy awakening. Soon, more than half of all surgeries were done in an ambulatory setting, and anesthesia-related outpatient surgery deaths declined from one in 10,000 to one in 400,000.^{vii}
- **Improved pain control.** By the time of aspirin's 100th birthday, pharmacists had a whole range of new anti-inflammatory drugs, local anesthetics, and opioids such as morphine. All three types of pain control have their uses, and all three have contributed to outpatient surgery, because pain control brings comfort, which speeds healing and reduces serious complications, such as pneumonia and blood clots.
- **Improved infection control.** As scientists have learned how to isolate germs and reduce their spread, infection rates have dropped precipitously. These days, the biggest contributors to infection are hospitals, where the world's worst and most resistant germs reside. One major study found the rate of surgical site infections in ambulatory settings to be just 35 percent of that in inpatient facilities.^{viii}
- **Lasers.** They haven't entirely replaced scalpels, but lasers certainly gave a boost to outpatient care, by accommodating precision surgical work in small, often hard-to-reach areas, with little or no blood loss and minimal tissue damage, pain or edema.
- **Surgical microscopes.** First introduced in the 1960s, they are the window to precision surgery and the natural companion to the laser.
- **Monitors.** As soon as surgeons could reliably and accurately track a patient's vital signs, they could quickly correct for small fluctuations (e.g., in fluid levels), thus keeping the body stable and preventing shock.
- **Improved imaging technology.** Ultrasound, computed tomography, magnetic resonance imaging, positron emission tomography, nuclear medicine and traditional X-rays have revealed increasingly refined details of the body's interior without ever breaking the skin. By the 1990s, exploratory surgery, once a diagnostic mainstay, had all but disappeared. So too had the day-long battery of tests that preceded any elective surgery. Today, imaging and operating suites are starting to merge, allowing surgeons to observe internal structures and processes *while* they operate.
- **A team approach.** As recently as the 1980s, seldom did a patient's primary care physician, surgeon, anesthesiologist, consulting specialists, nurses, therapists, social workers and others ever sit down together, talk about the patient's individual needs

and coordinate their efforts. Today, the value of interdisciplinary teams is widely documented and they are the cornerstone of safe, effective outpatient surgery.

The natural outgrowth of progress was the outpatient surgery center. A group of anesthesiologists in Phoenix, Arizona, opened the nation's first freestanding surgery center in 1970. The idea was simple:

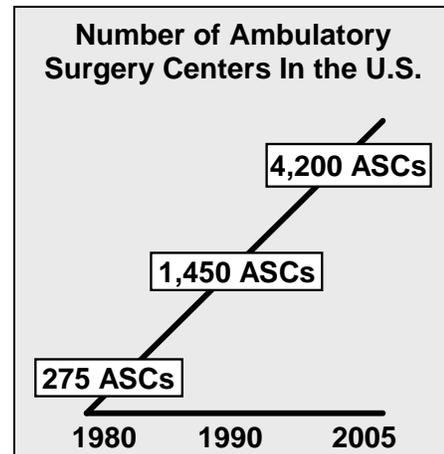
- 1) Move the safest, most routine operations out of the costly acute-care hospital and into a setting designed for a quick recovery, cost efficiency, patient comfort and convenience.
- 2) Choose patients who will almost certainly be ready within one day of their procedure to get up and walk around, perform vital functions, go home (with someone to drive and watch over them), follow instructions for pain management, and tolerate any discomfort.
- 3) Put in place a reliable system for follow-up.
- 4) If any of these conditions cannot be met, or if they fall through, send the patient to a hospital.

In the 1970s, South Bay Area surgeons were among the first in the country to explore the new model, which took on various names: outpatient surgery, same-day surgery, one-day surgery, the surgicenter, and, officially, the ambulatory surgical center (ASC). Whatever its name, the trend did not really take off until the mid-1980s.

What really tipped the scale toward outpatient surgery was the lower cost. In 1982, Washington acknowledged the low risk and cost effectiveness of outpatient surgery by making ASCs eligible for Medicare payments. By 2003, fully 85 percent of ASCs had Medicare certification. Today, some insurers have gone even further, covering *only* the outpatient version of a procedure unless the physician can prove the need for more intensive post-operative care. Little wonder insurers have taken this stand. Often, the bill for outpatient surgery is less than half what it would be for the same operation in an inpatient setting.^{ix}

Procedure	Inpatient	Outpatient
Tonsillectomy	\$998	\$464
Cataract Removal	\$2,012	\$835
Hernia Repair	\$1,271	\$601

Today some eight million operations a year take place in the nation's 4,200 outpatient surgery centers.^x Fully 70 percent of all surgery—more than 2,500 different procedures in all—now take place on an outpatient basis, compared to just 15 percent in 1980.^{xi} In California alone, the list of licensed freestanding ASCs is nine pages long.^{xii} It includes hospital day-surgery units and procedure rooms in physician offices as well as comprehensive facilities



dedicated to all aspects of outpatient care, such as those associated with Camino Medical Group.

In the South Bay, Camino Medical Group represents the very best in outpatient surgery.

At CMG, outpatient surgery is much more than an operation. It is an entire system of care. At its heart is the patient's ongoing relationship with his or her own primary care physician. Every surgical experience begins with a thorough screening that determines the patient's fitness for the outpatient approach and alerts the surgical team to any concerns or special needs, large or small. This same attention to detail continues through preparatory imaging and laboratory tests, pre-medication, anesthesia, monitoring, post-operative care, and follow-up. Every step emphasizes safety, comfort from pain, convenience, and the fullest possible recovery.

CMG surgeries in 2005 =
More than 9,000

CMG surgery patients who
require hospital admission =
Fewer than one in 10,000

Many of Northern California's most respected health professionals and institutions stand behind CMG's surgeons, including specialists in 32 medical disciplines, plus hundreds of registered nurses, respiratory therapists, and other support personnel experienced in the outpatient process. In collaboration with El Camino Hospital and other local hospitals, CMG provides acute-care admission if needed.

Through its affiliation with Palo Alto Medical Foundation, CMG participates in one of the largest multi-specialty group practices in California. As a member of the not-for-profit Sutter Health network, CMG works with organizations that are known to deliver more efficient, consistent care than in other systems, and with fewer hospital days. Together, all these partnerships provide a strong, stable infrastructure.

CMG's greatest value to the community derives from its not-for-profit status. With no stockholders to satisfy, CMG can reinvest revenue above expenses in facilities, programs and equipment. The needs of the patient always come first.

Patients nationwide are highly satisfied with outpatient surgery. In a survey of Medicare beneficiaries who had undergone one of four procedures in an ASC, fully 98 percent said they were satisfied with the experience.^{xiii} The reasons no doubt included:

- Faster rehabilitation than in a hospital, where immobility often slows recovery
- Lower risk of infection
- Less time lost from work, play, family, friends
- Less stressful surroundings (especially important for children and the elderly)
- Less paperwork than for most hospital admissions
- Faster scheduling (Some surgeons say they can perform three times as many procedures in an ASC as in a hospital.)
- More *predictable* scheduling (Less chance of being "bumped" for an emergency.)
- The reassurance of greater physician control over procedures and standards

- The comforting presence of loved ones, who are frequently permitted to sit by the bedside, rather than down the hall in a waiting room, during the patient's recovery
- All the comforts of home—because that's where the patient goes as soon as possible

The definition of “routine” continues to expand. In 2005 alone, Medicare added 65 more procedures to its list of those approved for outpatient surgery.^{xiv} Patients are already allowed to go home within hours of a total hip replacement. Soon, neurosurgeons will be doing about 80 percent of all back surgery with just a 23-hour stay. And, the newest generation of CT scanners is expected to move the outpatient phenomenon to an even higher plain by eliminating the need for most invasive vascular studies.

Far from disappearing, hospital-based surgery will continue to play a role for:

- Many elderly patients, who tend to recover more slowly from anesthesia than the young and who may have underlying medical conditions that add to their risks
- Diabetics and other high-risk patients of all ages
- Mothers delivering by Caesarian birth, seriously ill newborns, and fetuses undergoing surgery in the womb
- Anyone facing a major organ transplant, limb reattachment, complex brain tumor removal, or other quaternary (the most advanced) surgery
- Complex trauma cases

The future of outpatient surgery will have its challenges:

- Innovation is sure to continue (e.g., surgical robotics, telemedicine^{xv}), and insurers will approve increasingly complex cases, all requiring greater investment in equipment, facilities and personnel.
- Reimbursements may continue to decline, possibly threatening the financial stability of ASCs and physician groups. In 2006 alone, Medicare reduced payments to surgeons by some five percent for many of the most common procedures.^{xvi}
- California's seismic safety law will force many acute-care hospitals to invest heavily in construction, possibly diverting attention, and philanthropic dollars, away from outpatient care.
- As society grapples with complex issues such as how to care for the uninsured, surgeons and their staffs will be called upon on to get involved and to accommodate new laws, all of which may impinge on resources and time with patients.
- An aging population will require greater assistance, both before and after surgery.
- Wounded war veterans will place a strain on military surgery centers, with possible implications for the private sector.

Clearly, outpatient surgery must have champions, yet its profile is still surprisingly low, considering its importance. Currently, for example, the National Center for Health Statistics produces information only on *inpatient* surgery,^{xvii} and much of the federal data

on ambulatory surgery is nearly ten years old. This paper is part of a movement to spread the word about the value of outpatient surgery to 21st century healthcare.

CMG's new facility in Mountain View^{xviii} will serve as the gold standard for outpatient surgery in the South Bay Area. This

250,000-square-foot building will include five state-of-the-art operating rooms, plus all the same equipment and staff that might be found in a world-class acute-care medical center— everything except hospital beds, an intensive care unit and an emergency room. For those rare occasions when a patient requires such services, El Camino Hospital is just 1.5 miles away. By ambulance, the transfer will take no longer than a gurney ride down the hall.

Patient safety is the guiding principle behind every design decision in CMG's new outpatient surgery center.

Philanthropy will help shape the future of outpatient surgery. As a not-for-profit organization, the Palo Alto Medical Foundation depends to a great extent on charitable gifts for capital improvements and program development. Outpatient surgery may be a bargain compared with the same procedure in a hospital setting, but the equipment and facilities behind it are just as costly, especially if you factor in the essential “backstage” equipment, such as MRIs. The fund development campaign for CMG's new outpatient center will include many giving opportunities related to surgery. Because almost everyone has a surgical procedure at some time in their lives, the supporters of this campaign will reach a lot of people. Theirs will be a gift of inestimable worth: the gift of trust, that feeling which makes all the difference when you must put your life in someone else's hands.

NOTES

ⁱ Camino Medical Group, 301 Old San Francisco Rd., Sunnyvale, CA 94086. Phone: 408-739-6000

ⁱⁱ Palo Alto Medical Foundation, 795 El Camino Real, Palo Alto, CA 94301. Phone: 650-853-4808

ⁱⁱⁱ Massachusetts General Hospital, <http://neurosurgery.mgh.harvard.edu/History/beforeth.htm>

^{iv} “Surgery before anesthesia.” John T. Sullivan, M.D., Massachusetts General Hospital, <http://neurosurgery.mgh.harvard.edu/History/beforeth.htm>.

^v “The contributions of infection control to a century of surgical progress, J.W. Alexander, *Annals of Surgery*, 201:423–428, 1985.

^{vi} Ibid, <http://www.uihealthcare.com/depts/medmuseum/wallexhibits/civilwar/bullet.html>

^{vii} American Society of Anesthesiologists, © 2001, <http://www.asahq.org/patientEducation/officebased.htm>

^{viii} Miller et al, 2000, AHRQ, U.S. Dept. of Health & Human Services.

^{ix} Blue Cross/Blue Shield of North Carolina, 1977, as reported by the Federated Ambulatory Surgery Association, <http://www.fasa.org/aschistory.html>

^x Ibid, <http://www.fasa.org/faqaboutasc.html>

^{xi} *American Medical News*, <http://www.ama-assn.org/amednews>

^{xii} <http://www.oshpd.cahwnet.gov/MIRCal/programs/AS/FreestandingList.pdf>

^{xiii} U.S. Department of Health and Human Services Office of the Inspector General, as reported by the Federated Ambulatory Surgery Association, <http://www.fasa.org/faqaboutasc.html>

^{xiv} “What Surgeons Should Know about the Revised Medicare list of Procedures for ASCs,” Jean A. Harris, *Bulletin of the American College of Surgeons*, Sept. 2005, <http://www.facs.org/ahp/pubs/whatsurg0905.pdf>

^{xv} “Telemedicine and Telesurgery on the Operating Room,” by Ronald C. Merrell, M.D., F.A.C.S., Volume 90, Number 4, April 2005, *Bulletin of the American College of Surgeons*,
http://www.facs.org/fellows_info/bulletin/2005/merrell0405.pdf

^{xvi} *American College of Surgery Bulletin*, Volume 91, Number 1

^{xvii} <http://www.cdc.gov/nchs/fastats/Default.htm>

^{xviii} CMG’s new outpatient center will occupy 9.5 acres at the intersection of El Camino and Highway 85.