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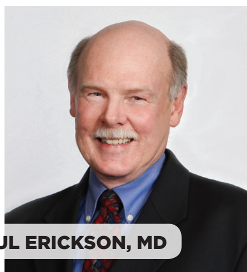
The Opioid Crisis: How Cottage Health and the Physician Community Are Addressing the Issue

BY PAUL ERICKSON, MD, Medical Director for Psychiatry and Addiction Medicine at Santa Barbara Cottage Hospital

Pain treatment is at the heart of physician practice. The father of modern medicine, Dr. William Osler, called morphine "God's own medicine." But we are now repeating the same mistakes with opioid prescribing that occurred in the late 19th century. Then, on the Civil War battlefields and in local pharmacies, opioids were widely dispensed and led many to addiction. In response, the Food and Drug Administration was created to regulate pharmaceuticals, and the Harrison Act criminalized physician prescribing of opioids.


PAUL ERICKSON, MD

Today again, we physicians have prescribed opioids widely and we now face many opioid-related problems.

The Santa Barbara physician community and Cottage Health are taking responsibility to address the opioid crisis that the medical community now realizes it helped create. Cottage Health has worked on the problem on many fronts including education, prevention, early intervention, treatment, coordination with community partners, and developing better approaches to treating chronic pain.

Today's Public Health Crisis

The new American opioid epidemic that began in the mid-1990s is the largest public health crisis in many decades. Seventy-thousand people die each year, 190 each day, from overdoses. Two-thirds of these deaths are opioid related. Remarkably, the life expectancy of middle-aged Caucasian Americans has

declined in recent years, in part because of these deaths. Overdose deaths have increased every year for about 25 years until 2017.

As pain treatment in the hospice movement improved in the 1980s, with more liberal prescribing of opioids at the end of life, some physicians and professional societies such as the American Pain Foundation adopted the idea that opioids could be prescribed for chronic pain safely and more often. The advocacy was based on great zeal and little evidence.

Advocates such as Dr. Russell Portnoy told fellow physicians in the 1990s that they were under-treating pain. Professional societies and regulatory agencies listened. The Joint Commission required pain evaluation to be the "fifth vital sign" (even though it's not a sign). State boards of medicine mandated that all physicians must have CME credits in pain management. And then Purdue Pharmaceuticals developed OxyContin.

The Marketing of OxyContin

OxyContin was marketed aggressively, widely, using sophisticated advertising techniques, and false claims. Long-acting opioids such as OxyContin were developed with the hope they would be less likely to lead to addiction. Purdue claimed that less than 1% of those prescribed this medicine would develop an addiction problem, a claim that had no evidence. Told they were under-treating pain, physicians increased prescribing of opioid pain medicines almost five-fold in the 15 years since the late 1990s. The prescribing rate has declined only since 2012, and still remains higher than in the 1990s.

The initial surge in opioid-related overdose deaths came from prescribed opioid medicines, often combined with sedatives. Then, as physicians began to prescribe opioids less, patients who were dependent on opioids turned to heroin, and heroin overdose deaths rose. More recently, fentanyl deaths have increased.

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CASE STUDY Managing Chronic Pain and Substance Abuse Disorder Without Opioids

The patient is a 45-year-old man who has a history of chronic pain and substance use disorder. He rode Motocross into his 30s and had multiple accidents and injuries, including a broken neck in 2009. He now works in construction and has back pain, bilateral rotator cuff tears and shoulder pain. He had spine surgery four years ago with only modest benefit for his back pain. He struggles now to go to work.

He has a complicated substance use history. In his teens, he used alcohol and marijuana. In his 20s, he developed problem use of methamphetamine. At first it helped his mood and attention. After a while, he developed an addiction, with multiple adverse consequences to his use, including arrests and time in jail.

He developed an opioid use problem after he had spine surgery four years ago and was prescribed opioids. After a while, he could no longer obtain prescriptions. He began smoking heroin, then used it intravenously. He was unable to stop using heroin, so he entered a treatment program nine months ago. He finished the program and began to buy Suboxone on the street, so he wouldn't relapse with heroin, as his cravings were strong. He could not find Suboxone reliably and relapsed with heroin use.

He came to the Bridge Clinic requesting help. He had no significant medical illness apart from his chronic pain. He had limited range of motion in both shoulders and his back, and severe muscle spasm in his low back. He was prescribed Suboxone (Buprenorphine/Naloxone) 4/1 mg sublingual twice daily for stabilization of his opioid use disorder and for pain relief. His pain was significantly improved. He had no further cravings for heroin.

He was also prescribed Robaxin 500 mg TID PRN for muscle spasm with benefit. He was referred to physical therapy for his back pain and limited mobility and to vocational counseling to find work that was not so physically demanding. He was also referred to a psychotherapist for help managing moderate anxiety and depression, and to work on re-establishing relationships with his children. Finally, he was referred to a primary care doctor.

He feels his pain now is manageable. He has not relapsed with heroin and is optimistic about the changes he is making in his life.

Opioid-Sparing Pain Management Practices at Santa Barbara Cottage Hospital

BY NOAH STITES-HALLETT, MD

An OxyContin marketing video from Purdue Pharma in 1998 is infamous for the statement made by the physician in the video; "There is no question that our best, strongest pain medications are opioids…They don't wear out. They go on working. They do not have serious medical side effects. And so these drugs, which I repeat, are our best, strongest pain medications, should be used much more than they are for patients in pain." The OxyContin marketing played on the human predilection for a quick fix, and this mindset, in conjunction with pain becoming the "fifth vital sign" in the early 2000s, helped to fan the flames of the future opioid crisis.

I specialized in critical care at Stanford after my residency in anesthesiology at the University of California, San Francisco, and this provided me the opportunity of fellowship training at an institution that already had well-honed opioid-sparing practices in place. I used lidocaine and ketamine infusions for pain management while a fellow at Stanford, and had been impressed by the results, but I hadn't wholeheartedly embraced their use in my practice until I became more involved in the Surgical Intensive Care Unit (SICU) at Santa Barbara Cottage Hospital (SBCH).

NOAH STITES-HALLETT, MD

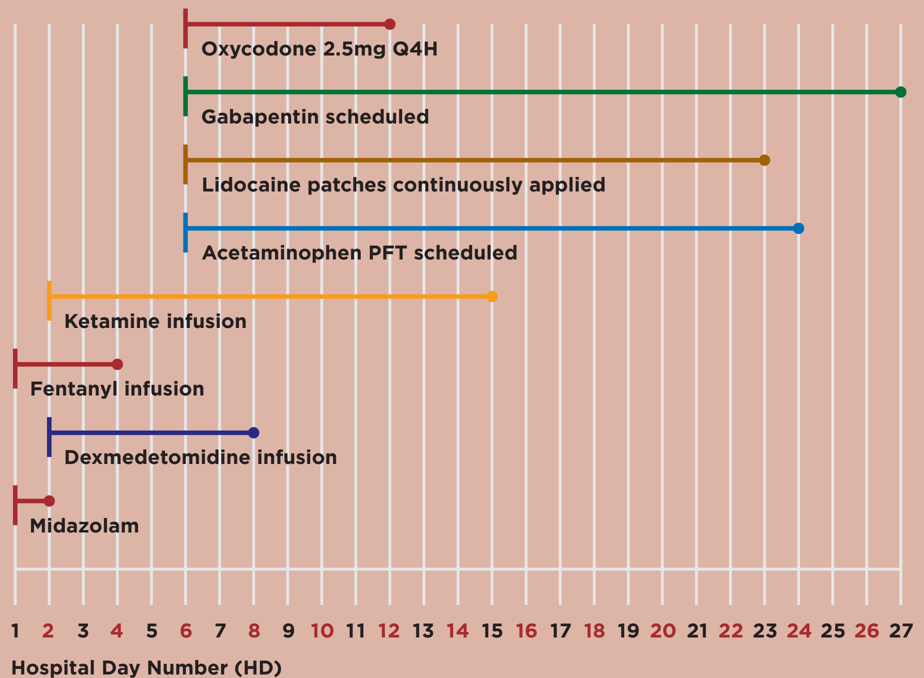
In 2018, I adapted Stanford policies to facilitate use of infusions with ketamine and lidocaine to manage acute pain at SBCH. This was complemented by education for residents, attendings, and nurses about the efficacy of initiating non-opioid-based medications in a scheduled fashion in anticipation of pain, while relying upon opioids only if those regimens were unsuccessful at managing pain. Instead of opioids being the main dish, the goal became to treat with the "adjuncts" such as acetaminophen, gabapentin/pregabalin, dronabinol, NSAIDs, lidocaine patches, ketamine and lidocaine infusions as the main course, while reserving opioids as the seasoning on top, if necessary. Part of this education focused on facilitating comfort around multimodal analgesia, as well as introducing structures to facilitate remembering to start medications in anticipation of pain instead of after the pain was so severe that the nurse was inclined to give the "strongest pain medication," opioids. Another aspect of the education included challenging the stereotypes and impressions people had about ketamine or lidocaine infusions, emphasizing that the continuous low-dose infusions had been safely used at Stanford for almost two decades.

Sometimes, even though very low doses of ketamine are used, there are still the occasional patients who hallucinate or more commonly have vivid dreams. And then there are the patients on a lidocaine infusion who can be drowsy, orthostatic, or experience tinnitus. But the risk of a life-threatening reaction like respiratory arrest is minuscule compared to what we consider an acceptable risk with opioids.

Using these infusions in combination with the

CASE STUDY **SICU Polytrauma Patient Managed Primarily with Scheduled Multimodal Non-Opioid-Based Analgesics**

A 38-year-old man was brought in by ambulance in the late evening after a high-speed motor vehicle collision involving multiple cars. The initial Glasgow Coma Score (GCS) was 7 in the emergency department (ED), and the patient was intubated for airway protection. Imaging showed interhemispheric subarachnoid hemorrhage, right medial temporal lobe contusion, minimally displaced mandibular symphysis fracture as well as a mildly displaced and comminuted superior right mandibular ramus fracture, lateral 2nd through 8th right rib fractures, right pulmonary contusion, T3 spinous process fracture minimally displaced, and finally comminuted and displaced right mid-clavicle fracture. The toxicology screen was negative. Levetiracetam was loaded in the ED, the patient was sedated with midazolam and fentanyl infusions after intubation, and he was transferred to the SICU for further management. On hospital day (HD) 2, the midazolam infusion was replaced with a dexmedetomidine infusion, and a continuous low-dose ketamine infusion was initiated. Lidocaine patches were applied over rib fractures on HD 2, left on continuously, and replaced every 24 hours. The fentanyl infusion rate was 100 mcg/hr on HD 1, 50 mcg/hr on HD 2, 25 mcg/hr on HD 3, and off on HD 4. Acetaminophen 650 mg per feeding tube Q6H around the clock was started on HD 6. Gabapentin 300 mg TID was started on HD 6 and titrated up over three days to 900 mg TID. Oxycodone 2.5 mg PO Q4H was started on HD 6 and stopped on HD 12. The patient underwent exploratory laparotomy and drainage of an intra-abdominal abscess on HD 13 without any increased opiate need post-op. The ketamine infusion was stopped on HD 15. The patient was discharged on HD 27 to rehab on an analgesic regimen of gabapentin 300 mg TID and acetaminophen PRN.



aforementioned scheduled non-opiate analgesics has made a significant difference for various types of acute pain associated with trauma (rib fractures, spinal cord injury, other orthopedic injuries, etc.), surgery, sickle cell, pancreatitis, cancer, and other pain syndromes. Additionally, we have been able to consistently manage intubated patients with minimal opiate infusions, or none at all, instead relying on combinations of dexmedetomidine and ketamine infusions to allow many patients to tolerate the ventilator while awake. At one point a few months ago, we had three intubated SICU patients who were being managed with a combination of dexmedetomidine and ketamine, which allowed all three of them to be awake while their pulmonary function improved on the ventilators. And these infusions allowed these patients to work with the physical therapists and occupational therapists while intubated. One of the patients even had a PCA, allowing her to self-manage increased pain from her orthopedic trauma injuries while she was working with the physical therapist.

Scheduled multimodal opioid-sparing analgesia requires more advanced preparation than ordering an opiate in response to pain, but as this practice becomes ingrained in the fabric of our conversation around pain management it can eventually become "the way we do things here."

For more information on the Santa Barbara Neuroscience Institute at Cottage Health, visit www.cottagehealth.org/neuro

Comprehensive Stroke Center Designation Marks Evolution of Stroke Care at Santa Barbara Cottage Hospital

BY PHILIP R. DELIO, MD, Medical Director and Chief of Staff for Santa Barbara Cottage Hospital

The pathway to comprehensive stroke center certification has been a 10-year process for Santa Barbara Cottage Hospital but we are proud to have earned that achievement earlier this year. Having witnessed the evolution of stroke care at our facility since 2001, it seems we have come a long way from the days when even other neurologists were questioning the use of thrombolytic therapy for stroke. Fast forward nearly 20 years and not only is thrombolytic therapy the mainstay of stroke therapy worldwide, but we now have a host of interventional treatments and therapies available including thrombectomy, arterial stenting and angioplasty, vascular coiling and embolization.

As many medical centers, both academic and community, responded to the challenge to become primary stroke centers recognized by The Joint Commission, it was only natural that centers that provided higher levels of care sought a pathway for individual recognition. It seemed inappropriate that a small community hospital with 15 beds and one community neurologist was felt to provide the same level of stroke care as a large center that had a neuro-intensive care unit, interventional capabilities, and neurosurgical expertise, as both organizations shared the same primary stroke center certification. Thus, the concept of a Comprehensive Stroke Center (CSC) certification recognized by The Joint Commission was born.

PHILIP R. DELIO, MD

Intense Collaboration and More Rigorous Standards

Santa Barbara Cottage Hospital's pathway to the CSC designation has been an arduous task that has taken the better part of two years to achieve. It is the culmination of an intense integration and partnership with virtually every service in the hospital: emergency services, radiology, laboratory, therapy services, nursing, and critical care, just to name a few. Unlike the primary stroke center designation, the comprehensive designation holds participating hospitals to more rigorous standards regarding "door-to-needle" times, number of interventional cases performed, door-to-groin puncture and recanalization times, etc. Similarly, it looks closely at nursing practices in designated neurocritical care and neurology wards.

At first glance, the level of scrutiny a stroke center is subject to from The Joint Commission can be intimidating and anxiety provoking. One missed performance metric, one missed vital sign,

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What Makes Santa Barbara Cottage Hospital a Comprehensive Stroke Center

BY LAUREN FINK, BSN, RN Stroke Coordinator for Santa Barbara Cottage Hospital

SANTA BARBARA Cottage Hospital (SBCH) is a 519-bed hospital with a 40-bed intensive care unit (ICU) capable of providing advanced neuromonitoring for complex stroke patients, as well as a 32-bed acute care neurology unit that includes a neuro step-down unit. SBCH's robust emergency department has its own dedicated computerized tomography (CT) scanner, emergency physicians who each hold National Institutes of Health Stroke Scale (NIHSS) certification, and nursing staff who are trained and prepared to receive the most critical stroke patients. The nursing staff in the emergency department, critical care, acute neurology, and interventional radiology units have achieved specialty stroke certifications and maintain yearly advanced stroke education.

SBCH has two neuro-interventional surgeons, four neurosurgeons (including one with a subspecialty in neuro-endovascular surgery), three neuro-intensivists, three neuro-hospitalists, and eight advanced practice providers dedicated to the stroke program. In addition to the neuro-interventional suite in the radiology department, SBCH has operating rooms equipped with an intraoperative magnetic resonance imaging (iMRI) machine plus an endovascular suite that allows the neurosurgeons to provide the best and most precise treatment possible.

Beyond providing top-quality care at SBCH, the stroke program is dedicated to improving stroke care within the community through a strong partnership with Emergency Medical Services (EMS) as well as with hospitals in the tri-counties area via physician and nursing collaborations enhanced by telemedicine. In 2015, SBCH began providing acute stroke triage and treatment via telemedicine to five hospitals in the tri-county region. Importantly, the Cottage Health system includes the 38-bed non-profit Cottage Rehabilitation Hospital (CRH), which is a fully accredited, nationally ranked facility that cares for over 200 stroke and brain-injured patients yearly. CRH's goal, using the latest robotic assistance devices and an on-site heated pool, is to maximize patient outcomes after the acute care has been completed and facilitate a smooth return to the home environment whenever feasible.

LAUREN FINK, BSN, RN

As the stroke program staffing has expanded since its inception in 2004, so has the volume of stroke patients. In 2018, the program cared for 575 patients, treating 413 ischemic strokes and 162 hemorrhagic strokes. The diagnosis of stroke, whether ischemic or hemorrhagic, can be devastating. Stroke is the leading cause of disability and the fifth cause of death in the country. The SBCH stroke program is dedicated to improving outcomes and reducing disability and mortality.

For more information on the Santa Barbara Neuroscience Institute at Cottage Health, visit www.cottagehealth.org/neuro

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Cottage Health's Response

Cottage Health has responded to this complex problem with many different initiatives. Some of the most recent include:

- Partnering with the ***Santa Barbara Neighborhood Clinics*** to start a Bridge Clinic open to any person with an opioid or substance problem, who can come directly from the ED or at discharge for immediate access to substance use disorder treatment.

- Fighting Back, a coalition of community members addressing substance problems, has convened the ***SB Opioid Safety Coalition,*** of which Cottage is a member. This coalition has won grants to do work in education, prevention, and intervention in opioid problems, coordinating with law enforcement, county government, public health, behavioral health, and others.

We have the challenge of providing effective treatment of chronic pain. The physician community is now appreciating how different chronic pain is from acute pain. Neuropathic pain and pain due to central (brain) sensitization require a very different approach that integrates non-opioid medicines, physical therapy, cognitive behavioral treatment for anxiety, depression, sleep, coping with pain, and other approaches. A ***Pain Management Task Force*** is now meeting to develop recommendations and a plan for chronic pain management in the community.

For more information on the Santa Barbara Neuroscience Institute at Cottage Health, visit www.cottagehealth.org/neuro

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a time cut-off missed by two minutes: these are all grounds for potential denial of certification. But in defense of The Joint Commission, its charge is to try to make stroke programs better, not criticize their shortcomings. It is in that spirit that the reviews are performed, namely, looking closely at all aspects of a stroke program in an effort to improve quality of care rather than find fault.

On our particular road to certification, we were fortunate to have a number of vital program elements that facilitated our successful review. First, support from our hospital administrators, who have shared our vision of CSC certification. Second, strong clinical and administrative leadership from the host of departments that are subject to review, particularly nursing, emergency, and radiology services. Third, a group of dedicated physicians in neurology, neurocritical care, neurosurgery, radiology, and emergency medicine who committed themselves to the cause and joined together for a successful program.

Unlike the primary stroke center designation, the comprehensive designation holds participating hospitals to more rigorous standards regarding door-to-needle times, number of interventional cases performed, door-to-groin puncture and recanalization times.

Conclusion

What have been the benefits of comprehensive certification? Namely, that we now are able to provide complex stroke services to patients in our city and surrounding region at a standard that matches those of the best stroke programs in the country. We are now recognized as a receiving hospital for complex stroke and neurovascular care, and as such have been able to extend a level of expertise to patients with both simple and complex stroke, many of whom go on to have favorable outcomes that were just not possible under prior stroke models of treatment and care. It is ultimately these patient outcomes that drive a comprehensive program, and make all the effort and intense planning worthwhile. Every stroke patient who makes a good recovery and returns to work, home, or their family is a continual reminder of how impactful stroke care at the highest level can be.

For more information on the Santa Barbara Neuroscience Institute at Cottage Health, visit www.cottagehealth.org/neuro

PROGRAM DETAILS

FRIDAY, NOVEMBER 8, 2019
Hilton Santa Barbara Beachfront Resort
Santa Barbara, California

saving the brain

THE 12TH ANNUAL NEUROSCIENCE SYMPOSIUM OF THE CENTRAL COAST

More information about this year's symposium can be found at www.cottagehealth.org/stb. Program agenda subject to change.

TIME	TOPIC	SPEAKER
0700	**Registration / Continental Breakfast / Vendor Fair**	
0745	**Welcome and Opening Remarks**	
0755	**The State of Neurosciences**	**Thomas H. Jones, MD,** Neurosurgeon, Neurosurgical Associates of Santa Barbara, Medical Director, Santa Barbara Neuroscience Institute at Cottage Health
0825	**Pathways to Chronic Pain Relief: Psychological Education**	**David Schechter, MD,** Director, Mind Body Medicine, Culver City, CA
0910	**Effective Acute Neuropathic Pain Management**	**Noah Stites-Hallet, MD,** Neurointensivist, Anesthesia Medical Group of Santa Barbara, Central Coast Critical Care Associates, Santa Barbara, CA
0945	**Break / Vendor Fair**	
1000	**Prodromal Dementia**	**Richard Caselli, MD,** Professor of Neurology, Mayo Clinic, AZ
1045	**When the Brain Can't be Saved – The Role of Palliative Care**	**Ellie Melton, APRN-CNP,** Palliative Care Program Manager, Cottage Health
1120	**Translating Tragedy**	**Marwa Kilani, MD,** Medical Director of Palliative Care, Providence Holy Cross Medical Center, Mission Hills, CA
1210	**Lunch / Vendor Fair**	
1315	**KEYNOTE: Targeted Reinnervation for Prosthesis Control and Pain Reduction**	**Todd Kuiken, MD, PhD,** Professor, McCormick School of Engineering and Surgery, Northwestern School of Medicine, Director Emeritus Shirley Ryan Ability Lab, Chicago, IL
1410	**The Future of Brain Injury: A Welcome to Robots!**	**Uzma Samadani, MD, PhD,** Associate Professor of Neurosurgery, Neuroscience, Bioinformatics and Computational Biology, University of Minnesota
1455	**Protection Against Secondary Brain Injury**	**Peter Nguyen, MD, PhD,** Neurointensivist, Central Coast Critical Care, Associates, Santa Barbara, CA
1530	**High-Tech Rehabilitation: A CRH Update**	**Nathaniel Cowing, PT, DPT; Noah Gaines, DPT; Karen Walker, MS, CCC-SLP; Lydia Lamberth, OTR/L;** Cottage Rehabilitation Hospital
1605	**Stretch Break**	
1615	**Stroke Update 2020**	**Phil Delio, MD,** Neurologist, Neurology Associates of Santa Barbara; Medical Director-Stroke Services at Cottage Health
1650	**Symposium Conclusion**	

Cottage Health

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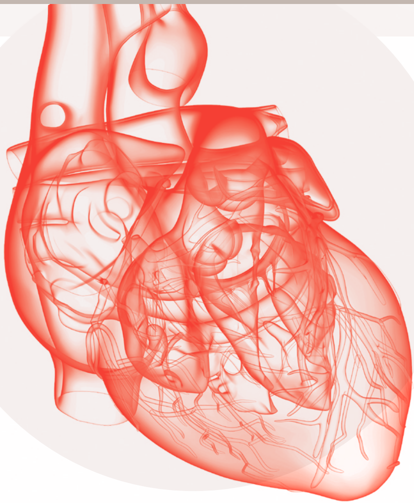

SECOND ANNUAL

Cardiology Symposium

Healing the **Heart**

February 7, 2020

Hilton Santa Barbara Beachfront Resort

This symposium is intended for cardiologists, cardiac surgeons, cardiology fellows and interns, internal medicine and primary care physicians, hospitalists, PAs and NPs, nursing and cardiology technologists in addition to healthcare professionals involved in direct patient care.

cottagehealth.org/healingtheheart

Cottage Heart & Vascular Center

American College of Cardiology California Chapter