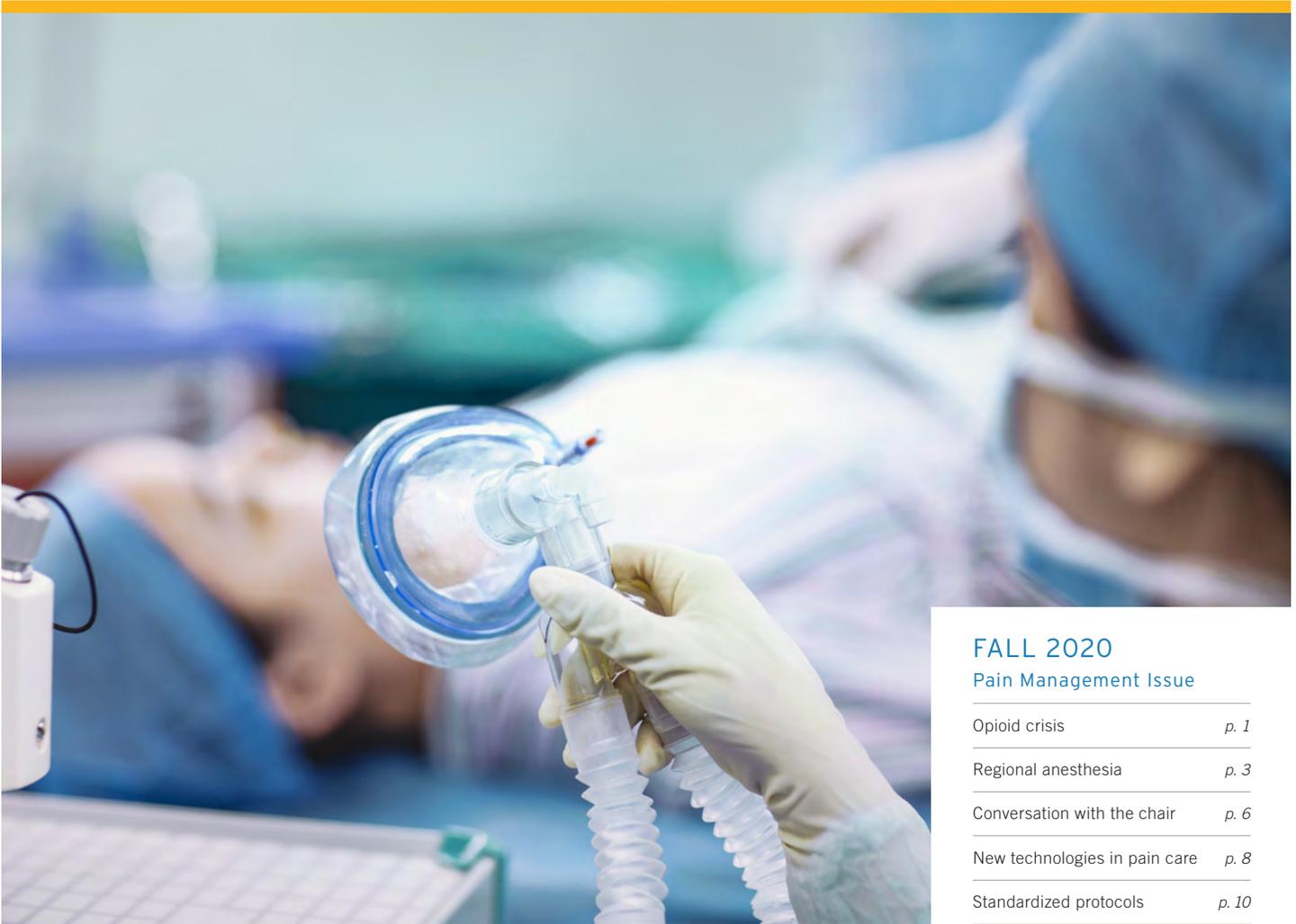


Physicians Update



FALL 2020

Pain Management Issue

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OPIOID-FREE ANESTHESIA

Anesthesiologists have significant role to play in addressing opioid crisis

Amid the continuing opioid epidemic, anesthesiologists have a significant role to play in reducing the risk of postsurgical dependence by working perioperatively with surgeons and other providers. This includes managing patients through approaches such as neuraxial anesthesia, regional blocks such as nerve catheters

that patients can go home with and other non-opioid adjuvant modalities.

“Our goal is always to help our surgical colleagues and patients with pain management,” says Pamela A. Chia, MD, a UCLA regional anesthesiologist. “We have found that through a balanced, multimodal

continued on p. 4

Clinical Updates

Learn about the latest advances from UCLA

UCLA Health

Device approved for use in heart failure patients with mitral regurgitation



The MitraClip transcatheter mitral repair procedure was initially approved in 2013 by the Food and Drug Administration (FDA) to treat patients with degenerative — or primary — mitral valve disease who are not good candidates for traditional surgery. The approval has now been expanded to include heart failure patients with functional — or secondary — mitral regurgitation whose symptoms have failed to improve with guideline-directed therapy.

Physical changes to the heart brought about by congestive heart failure can distort the mitral valve in the center of the chest, where the valve leaflets no longer seal and blood flows backward from the left ventricle into the left atrium. Mitral valve regurgitation makes it more harder for the weak, dilated heart to circulate blood throughout the body. Because most heart failure patients with functional mitral regurgitation are in very poor health, they are usually not candidates for surgical mitral valve repair.

Treatment options for heart failure patients

Patients who have advanced heart failure are at increased risk for recurrent hospitalizations, decreased quality of life and high mortality. Heart failure patients with functional mitral regurgitation have significantly more severe heart failure symptoms and a worse prognosis.

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Treatment option for a challenging group of patients

The newly approved indication for MitraClip is for treatment of heart failure in congestive heart failure patients. Results of the COAPT trial of high burden heart failure patients with mitral regurgitation, despite guideline-directed medical therapy, were published in the *New England Journal of Medicine* in July 2019. The study showed that MitraClip significantly improved an existing one therapy for congestive heart failure, potentially making life for many of our heart failure patients.

The extended indication for MitraClip is a result of several years of research, innovation and technology advancement in patient care. (UCLA Health, Dr. Thomas, MD, Chief of Cardiac Surgery)

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Peptide receptor radionuclide therapy for gastroenteropancreatic neuroendocrine tumors

Patients with metastatic or inoperable neuroendocrine tumors of the digestive tract or pancreas now have a new treatment option with the first targeted radioactive drug approved in the United States to treat gastroenteropancreatic neuroendocrine tumors (GEP-NETs). Lutathera (lutetium Lu 177 dotatate), a peptide receptor radionuclide therapy (PRRT) drug, was approved by the FDA for adults with GEP-NETs. About one-in-27,000 people in the U.S. is diagnosed annually with GEP-NETs, which develop in the hormone-producing cells of the neuroendocrine system.

UCLA offers specialized care for pediatric ocular motility disorders

The Divisions of Pediatric Ophthalmology and Strabismus of the UCLA Stein Eye Institute and Doheny Eye Center UCLA in Arcadia, Pasadena and Orange County specialize in the comprehensive evaluation and management of pediatric ocular disorders, including ocular motility (muscle) disorders. Strabismus (both pediatric and adult) and amblyopia are among the most common disorders treated by UCLA pediatric ophthalmologists.

Advances in the care of retinal diseases

Recent advances in eye imaging and treatment have dramatically improved outcomes for patients with retinal diseases and lowered the risk of severe vision loss and blindness. Doheny Eye Center UCLA retinal specialists are international leaders in the development and implementation of new noninvasive imaging technologies for diagnosing, treating and monitoring retinal diseases. In recent years, optical coherence tomography (OCT) has provided ophthalmologists with cross-sectional views of the structure of the retina, while OCT angiography renders information on vascular structures throughout the retina. Swept-source OCT provides a newer method of obtaining images in the deep retina and choroid.

Research clarifies treatment for central retinal vein occlusion

Aflibercept and ranibizumab are approved by the FDA for CRVO-related macular edema; however, bevacizumab is often used off-label based on its reported efficacy and lower cost per dose — approximately \$100 per injection for bevacizumab compared with approximately \$2,000 per injection for aflibercept and \$1,800 per injection for ranibizumab. Doheny Eye Center UCLA ophthalmologists led a multicenter, randomized clinical trial comparing bevacizumab and aflibercept for treating CRVO that showed both medications reduced macular edema and were equally effective after six months of treatment.

Device approved for use in heart failure patients with mitral regurgitation

The MitraClip transcatheter mitral repair procedure was initially approved in 2013 by the FDA to treat patients

with degenerative — or primary — mitral valve disease who are not good candidates for traditional surgery. The approval has now been expanded to include heart failure patients with functional — or secondary — mitral regurgitation whose symptoms have failed to improve with guideline-directed therapy. Because most heart failure patients with functional mitral regurgitation are in very poor health, they are usually not candidates for surgical mitral valve repair.

Ornish Lifestyle Medicine can improve heart health

Intensive cardiac rehabilitation using the Ornish Lifestyle Medicine™ approach has been shown to improve health by promoting weight loss; boosting exercise capacity and body composition; and lowering cholesterol and triglyceride levels, blood pressure and depression scores. Ornish Lifestyle Medicine is the only cardiac rehabilitation program shown to slow, stop or even reverse the progression of heart disease. UCLA's program — the first anywhere to offer Dr. Ornish's intensive cardiac rehabilitation approach — consists of 18 four-hour sessions meeting twice a week for nine weeks. The program focuses equally on exercise, nutrition, stress management and emotional support.

Food allergy clinics bring research-based treatments to the community

The UCLA Division of Allergy and Immunology offers the latest research-based care at community offices in Beverly Hills, Porter Ranch, Santa Monica, Torrance, Thousand Oaks and Westwood, as well as to inpatients at our hospitals in Westwood and Santa Monica. In addition to offering a robust clinical food desensitization program, UCLA allergy and immunology clinicians treat a full spectrum of allergy and immunology disorders, including primary and secondary immune deficiencies, urticaria, allergic rhinitis, asthma, drug allergies, atopic dermatitis, mast cell disorders and eosinophilic esophagitis.

Laser enucleation offers minimally invasive treatment of very enlarged prostates

A significant percentage of benign prostatic hyperplasia (BPH) patients being treated for urinary symptoms have such large prostates — over 80 grams in size — they are not candidates for TURP or green laser vaporization. Effective treatment for these patients requires the removal of more prostate tissue than can be accomplished with these popular, minimally invasive approaches. HoLEP — holmium laser enucleation of the prostate — is a minimally invasive procedure capable of removing a large volume of tissue to successfully treat patients with very large prostates.



To download these and other clinical advances at UCLA Health, go to: uclahealth.org/clinicalupdates

UCLA Health

UCLA offers specialized care for pediatric ocular motility disorders strabismus and amblyopia



The Pediatric Ophthalmology and Strabismus divisions of the UCLA Stein Eye Institute and Doheny Eye Center UCLA in Arcadia, Pasadena and Orange County specialize in the comprehensive evaluation and management of pediatric ocular disorders including ocular motility (muscle) disorders, strabismus (both pediatric and adult) and amblyopia among the most common disorders treated by UCLA pediatric ophthalmologists.

UCLA has been a leader in the treatment of these disorders since 1961, having established the first pediatric ophthalmology division in any U.S. medical school under the guidance of Dr. Leonard Aeppli — the first physician anywhere to be board certified in both pediatrics and ophthalmology. UCLA remains one of the largest providers of pediatric and adult strabismus eye care on the West Coast.

Strabismus, also commonly called cross-eye or wall-eye, is a condition in which the eyes fail to align as where they meet. One eye may look straight ahead while the other turns inward (esotropia), outward (exotropia), upward (hypertropia) or downward (hypotropia). The misalignment can be constant, or it can be intermittent. Which eye is straight and which is misaligned may switch or alternate.

Strabismus can be associated with refractive errors (problems with the eye's ability to focus images), illness, injury or trauma.

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It is never too late to correct strabismus

Approximately 4 percent of adults have strabismus, a condition in which the eyes fail to align as where they meet. One eye may look straight ahead while the other turns inward (esotropia), outward (exotropia), upward (hypertropia) or downward (hypotropia). The misalignment can be constant, or it can be intermittent. Which eye is straight and which is misaligned may switch or alternate.

Strabismus can be associated with refractive errors (problems with the eye's ability to focus images), illness, injury or trauma.

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Regional anesthesia a boon to patients having joint replacement surgery

With collaboration among anesthesiologists, surgeons, hospitalists and physical therapists, the vast majority of joint replacement surgeries at UCLA are now being done with regional rather than general anesthesia. The new approach has led to a host of desired outcomes: decreased length of hospital stay for patients, reduced opioid narcotic use for pain relief, faster recovery, less need to visit rehabilitation facilities and greater overall patient satisfaction.

“The traditional approach to joint replacement surgeries around the world has been that patients are put to sleep, they get a breathing tube, their joint is replaced, and then they spend several days in the hospital before going home,” says Natale Naim, MD, associate clinical professor in the Department of Anesthesiology and Perioperative Medicine at UCLA and a leader of the effort. “Particularly given that this is a surgery that is common in our older patient population, there has been a great deal of concern about the risks associated with general anesthesia among both patients and their families.

“Although we know it is safe overall, it’s also clear that there are better ways to prevent pain and keep patients off opioids and the risks associated with them. Even more importantly, we want to get patients home sooner, especially in COVID-19 times. With the new approach, instead of five days in the hospital, patients can go home within six hours,” Dr. Naim says.

Patients having joint replacement surgery at UCLA are now given a series of regional anesthesia nerve blocks — a process, Dr. Naim tells patients, that is analogous to getting their tooth numbed at the dentist. “We are essentially numbing up their joints so that only part of the body is being anesthetized,” she says. “We focus the anesthetic exactly where the surgery is, leaving the rest of the body alone — and any time we don’t have to take over the patient’s heart and lungs, there is less risk involved.” Patients are then

discharged from the hospital with a nerve catheter — a portable anesthetic pump that continues to deliver the local anesthesia to the new joint around the clock for four days after the surgery, at which time the patient can pull the device out at home. UCLA Health first adopted the take-home nerve catheter approach in 2014, and Dr. Naim estimates that across all surgical services it is used in approximately 1,500 procedures per year, significantly more than at most other medical centers.

The current protocols for patients undergoing joint replacement surgery at UCLA were developed through intense collaboration among anesthesiologists, surgeons and others involved in the treatment of these patients. “We met weekly for years and continue to meet on a monthly basis,” Dr. Naim says. “Because most of these surgeries tend to be similar, from both an orthopaedic and anesthetic standpoint, they really lend themselves to standardization. Whenever we are able to do that in medicine, we are likely to see greater efficiency and better outcomes.”

The shift to regional anesthesia has made joint replacement a much more appealing option. “Orthopaedic surgeons are very happy with this development, not only because it addresses the concern about opioids, but also because it is making their patients much happier,” Dr. Naim says. “One surgeon told me that joint replacement surgery used to be a much bigger deal in a patient’s life — patients would talk about how it made things better in the long run, but they had to go through a difficult recovery. Now, it’s become more like a blip on the radar that they barely remember once it’s behind them. This is helping patients get back to their lives much more quickly.”



For more information about regional anesthesiology at UCLA, go to: uclahealth.org/anes/regional-anesthesiology



Photo: Science Photo

The shift to regional anesthesia has made joint replacement a much more appealing option. “Orthopaedic surgeons are very happy with this development. It is making their patients much happier.”

COVER STORY

Anesthesiologists have significant role to play in addressing opioid crisis

STORY HIGHLIGHTS

Amid the continuing opioid epidemic, anesthesiologists have a significant role to play in reducing the risk of postsurgical dependence by working perioperatively with surgeons and other providers.

The desire among physicians to sufficiently treat their patients' pain led to what is now acknowledged to have been an overprescribing of opioid pain relievers leading to the beginning of an epidemic.

(continued from cover)

approach that relies on non-opioid adjuvants, along with regional and neuraxial techniques, we can minimize — and in many cases eliminate — the use of opioids for our patients.”

Dr. Chia notes that the desire among physicians to sufficiently treat their patients' pain led to what is now acknowledged to have been an overprescribing of opioid pain relievers beginning in the late 1990s — providing fuel for the beginning of an epidemic that resulted in an estimated 450,000 deaths from prescription and illicit opioids in the United States between 1999 and 2018, according to the U.S. Centers for Disease Control and Prevention.

“We know that when they're used safely, opioids can be very effective for pain management,” Dr. Chia says. “But through research, we also know that there has been

an overreliance on opioids after even small surgeries, and there is a realization that we need to be more judicious about their use.” In addition to the risk of dependence, opioids carry side-effect risks that include nausea, pruritus, respiratory depression and constipation. Adverse reactions to opioids can lead to prolonged hospital stays, increasing the burden on the health care system.

Dr. Chia, who as a regional anesthesiologist works closely with orthopaedic surgeons, explains that for joint replacements, she and her surgical colleagues typically give non-opioid adjuvants preoperatively; they then will use a neuraxial technique, as well as a regional block that can carry over to the postoperative period, helping to reduce the need for opioids after surgery. “Every patient is different, but if we can use the non-opioid adjuvants we have, such as NSAIDs, acetaminophen, gabapentinoids and muscle relaxants, we can minimize the amount of opioids that patients are prescribed,” Dr. Chia says.

Providing opioid-free anesthesia requires a coordinated effort among surgeons, anesthesiologists, hospitalists, social workers, pharmacists, nurses and ancillary staff. “There has to be a great deal of planning, including laying the groundwork weeks in advance through patient education,” Dr. Chia notes. “It is important to manage patients' expectations and ensure that they understand what we're going to be doing and why.”

Opioids aren't withheld from patients when non-opioid approaches are insufficient to relieve their pain, Dr. Chia says. “That option is always available, and as long as they are used safely and judiciously, it is appropriate,” she explains, noting that the decision on when to move to



Photo: Getty Images



Photo: Getty Images

opioids is made on a case-by-case basis, taking into account patients' level of risk and previous opioid use.

“Our goal is to manage each patient individually and to make sure that their pain is well controlled,” Dr. Chia says. “No one wants patients to suffer just to avoid opioids; in fact, when patients get behind on pain rather than managing it with small amounts of medication, it can be a problem, because they might end up playing catch-up with a larger dose. But the use of regional techniques has been terrific, and for most patients we can provide good pain relief without the use of opioids.”

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To read a review by Dr. Pamela A. Chia on opioid-free anesthesia in the August 2020 issue of *Current Opinion in Anesthesiology*, go to: tinyurl.com/opioid-free-anesthesia

STORY HIGHLIGHTS

Anesthesiologists traditionally have practiced in the operating room, but their role over the past decade has moved toward perioperative medicine.

To address postoperative morbidity, the field is applying expertise developed intraoperatively, in close collaboration with surgeons, primary care physicians, nurses and the entire multidisciplinary team.

Photo: Getty Images

The role of anesthesiologists changes with the times

The role of anesthesiologists has expanded beyond the intraoperative environment, with the recognition that they have much to contribute in everything from optimizing surgical outcomes to combating the opioid epidemic. Maxime Cannesson, MD, PhD, the Ronald L. Katz, MD, Chair of the UCLA Department of Anesthesiology and Perioperative Medicine, spoke about recent developments in anesthesiology and future directions for the field.

The incorporation of perioperative medicine into the title of your department suggests that the role of anesthesiologists at UCLA has shifted. What has been the biggest change?

Historically, anesthesiologists practiced in the operating room. But over the past decade, our role has moved toward perioperative medicine — taking care of the surgical patient before and after surgery, and outside of the hospital as well. That includes preoperative optimization; it includes critical care management; telemedicine; and it includes management of acute and chronic pain. If you look at surgical outcomes, the operating room — where we provide the

“Over the past decade, our role has moved toward perioperative medicine — taking care of the surgical patient before and after surgery, and outside of the hospital as well.”

most acute care — has been the safest place in the hospital, to a large extent due to the patient-safety role anesthesiologists have played. To address postoperative morbidity, we are now applying the expertise we have developed intraoperatively, in close collaboration with surgeons, primary care physicians, nurses and the entire multidisciplinary team.

What are some of the major challenges today’s anesthesiologists face when it comes to pain management, and how is your department responding to them?

Certainly, the opioid crisis is at the forefront. To minimize exposure to opioids during and after surgery, our pain physicians have developed an arsenal of what we call multimodal analgesia. Many of the new state-of-the-art medications allow us to manage pain without exposing patients to any opioids. It’s more complicated for patients who have chronic pain before they come for surgery, so we have developed a

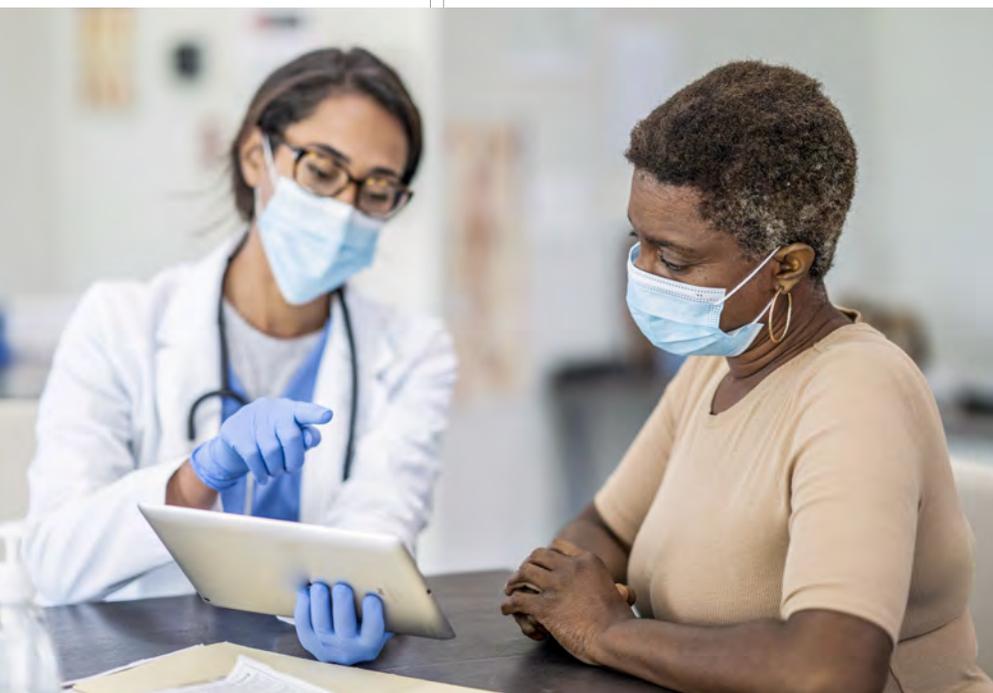




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pre-op pain rehabilitation clinic, where we begin taking care of these patients to optimize their pain management before the surgery starts. For chronic pain, we want our department to be involved with the whole Los Angeles community, not only in our clinics in Santa Monica and Westwood. Over the past few years, we have developed a community practice for chronic pain, and now we have clinics throughout Los Angeles.

What impact has the pandemic had on anesthesiology at UCLA?

COVID-19 has affected every department at UCLA, but clearly anesthesiology has been one of the most affected because we are on the frontline of the management of COVID-19 patients. Our clinicians have been exposed to the risks associated with COVID-19, and I am extremely grateful and proud of their efforts. For pain management, what's been most impressive is to see all of our chronic pain physicians move to telemedicine so quickly — changing their practice and continuing to serve their patients in that way. Independent of the treatment of chronic pain, our department was a leader in telemedicine for preoperative assessment — seeing patients before surgery to assess their health and risk. Because we had this experience before, we've been able to quickly implement telemedicine for our pain physicians.

What are the major areas of research for your department?

Our department currently has four main research themes, each of which is supported by a strong foundation of basic and clinical research infrastructure: cardiovascular research; neuroscience, mechanism of anesthesia and pain; organ-protection research; and biocomputing and health informatics. We have a lot of research focusing on the use of

functional MRI to understand the mechanism leading to postoperative cognitive dysfunction. We also have a large research program focusing on understanding how anesthesia works on the brain, because we still don't know exactly why some of the drugs we use induce unconsciousness. That's a big part of the research in anesthesia — to understand what is consciousness and what is unconsciousness, as well as what the experience of pain means.

What do you see as the major advances for your field in the next 10-to-20 years?

I think the major innovations in our practice are going to be along three main domains. The first is the way we deliver care. Whereas it used to be extremely siloed, the care process is becoming much more integrated as physicians and specialists work together independent of their specialty, focusing on the patients more than on the specialty, moving from a physician-centered practice to a real patient-centered practice. For anesthesiologists, it means being fully integrated in the care coordination of the surgical patient. The second is going to be new medications. Anesthesiology has always been associated with the development of new drugs, and we are going to see medications that will have less impact on the physiology than they have today. Postoperative cognitive dysfunction is one of the key complications of anesthesia, and that's something that we are going to improve in the next 10-to-20 years through new drugs. Medications for pain management are also going to change dramatically. Hopefully, we'll have new substitutes for opioids, so that we can treat pain without the risk of triggering addiction.

Finally, new technology is going to help us improve patient safety, both during surgery and in the perioperative setting. We are a data-rich specialty, and we are increasingly moving toward precision medicine in the acute care setting. We will be able to stratify our patients better, predict which ones are at risk of developing complications, and then have some prescriptive analytics that will tell us what to do to avoid the complications we want to avoid or to achieve the outcome we want to achieve.



For more information about the UCLA Department of Anesthesiology & Perioperative Medicine, go to:
uclahealth.org/anes



Maxime Cannesson, MD, PhD.

Photos: UCLA Health

STORY HIGHLIGHTS

Recent advances in the technology of pain treatment have expanded the armamentarium for the comprehensive management of pain in patients with cancer.

Peripheral nerve stimulation, brought about by the enhanced use of ultrasound to identify the peripheral nerves, is another significant advance gaining renewed popularity.

New technologies advance pain care for patients with cancer

Recent dramatic advances in the technology of pain treatment have expanded the armamentarium for the comprehensive management of pain in patients with cancer, says F. Michael Ferrante, MD, professor of clinical anesthesiology and perioperative medicine and director of the UCLA Pain Management Center in Santa Monica, a multidisciplinary program dedicated to the treatment of anatomically and physiologically based pain and spasticity.

Among the emerging technologies applicable to treating cancer pain is cooled radiofrequency ablation. For decades, Dr. Ferrante notes, radiofrequency ablation has been used to treat pain by applying thermal energy to cauterize the set of nerve fibers responsible for pain. The new technology circulates water through the tip of a needle, creating a larger lesion to work with in order to increase accuracy and reduce the risk of damaging adjacent tissues.

A second advance, particularly effective for patients with cancer who have lumbar spinal stenosis, involves the use of the Superion device.

In general, all types of pain, including pain in patients with cancer, tends to be undertreated, in part because it often has complex origins that involve both neurology and psychology.

Through a minor surgical procedure in which a thumbnail-sized incision is made, the device can be inserted between the spinous processes — the bony ridges that run up and down the middle of the spine. “Once deployed, this device has two wings that secure it to the spinous processes above and below the affected area,” Dr. Ferrante says. “We have seen patients get substantial relief from this very simple minimally invasive procedure.”

Another technical advance noted by Dr. Ferrante is the renewed popularity of peripheral nerve stimulation, brought about by the enhanced use of ultrasound to identify the peripheral nerves. “Instead of placing a chemical agent, like a local anesthetic or a steroid, we can direct a peripheral nerve stimulator under X-ray or ultrasound guidance,” Dr. Ferrante explains. “We put it next to the nerve, and the patients can wear a wireless activating device that supplies electricity, which can bring tremendous benefit.”

Opioids remain the mainstay for treating cancer pain, though given the potential downsides, including dependence, they must be applied with caution. “Opioids are the most effective painkillers we have,” Dr. Ferrante says. “On the other hand, it’s best not to use them as the sole modality, but rather as part of a plan. Using them in minimal doses, judiciously applied as part of a symphony of ways to attack the pain, still has great value.” Non-opioid treatments that



Photo: Getty Images

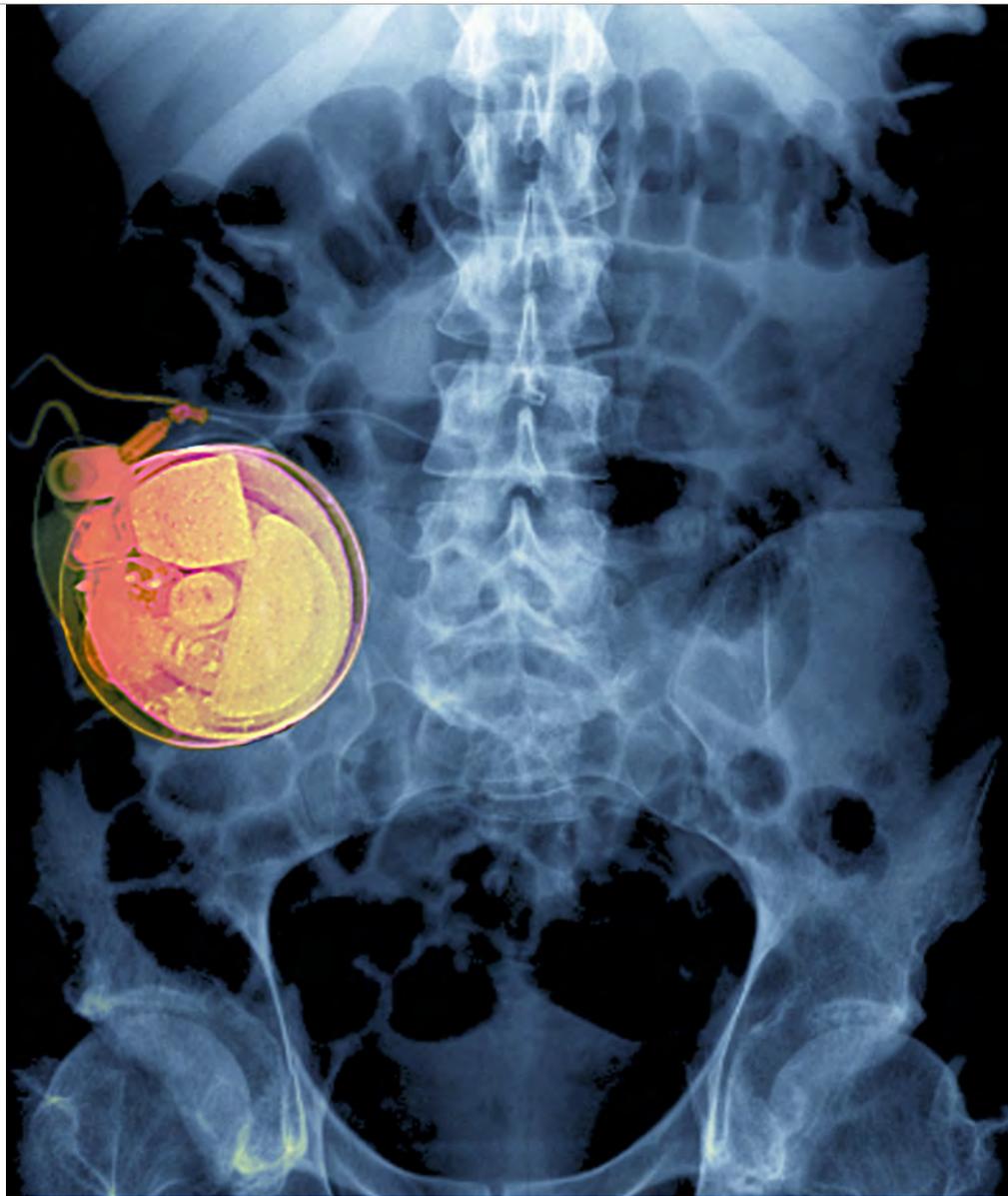
can be helpful as supplements include mindful meditation, hypnosis and acupuncture, along with pharmacologic solutions such as NSAIDs and antidepressant or anticonvulsive drugs that have analgesic properties.

One underutilized approach that can be particularly helpful for treating cancer pain, Dr. Ferrante says, is intrathecal drug delivery. This involves inserting a catheter into the fluid surrounding the spinal cord, placing a pump in the soft tissue of the abdomen and then administering a drug — typically an opioid — directly into the spinal cord-surrounding fluid. “One milligram of morphine administered this way is equal to 300 milligrams of morphine given orally,” Dr. Ferrante explains. “If a patient is having side effects due to oral administration, this can greatly help.”

In general, Dr. Ferrante says, all types of pain, including pain in patients with cancer, tends to be undertreated, in part because it often has complex origins that involve both neurology and psychology. “Many physicians see pain as a sort of big, black box, but when there is an impasse, these patients should be referred,” Dr. Ferrante says. “We have so many effective ways of treating patients’ pain that it’s just a matter of making the proper assessment. At our center, we combine the perspectives of internists, orthopaedists, neurosurgeons, neurologists and anesthesiologists to determine the source of the pain and then tailor a comprehensive treatment plan.”



For information and locations for the **UCLA Comprehensive Pain Center**, go to: uclahealth.org/pain



Intrathecal drug delivery. Colored X-ray of a morphine pump (orange), which has been placed under the skin in the lower back.

Photo: Science Photo



Photo: Getty Images

Non-opioid treatments that can be helpful as supplements include mindful meditation, hypnosis and acupuncture, along with pharmacologic solutions such as NSAIDs and antidepressant or anticonvulsive drugs that have analgesic properties.



Standardized protocols improve outcomes for patients across a broad spectrum of surgical procedures

STORY HIGHLIGHTS

Enhanced recovery after surgery protocols represent an effort to standardize best-practice approaches before, during and after surgery to improve patient comfort and speed recovery.

Minimizing variability across patients, physicians and hospitals improves outcomes and reduces costs.

Protocols for enhanced recovery after surgery (ERAS) are contributing to faster recovery, reduced postoperative complications, decreased lengths of hospital stays and improved patient satisfaction after major elective procedures. ERAS protocols — which have been implemented at UCLA since 2015 through a collaboration between the Department of Anesthesiology and Perioperative Medicine and the Department of Surgery — represent an effort to standardize best-practice approaches before, during and after surgery to improve patient comfort and speed recovery.

“In the past, at many institutions there has been a great deal of variability — with surgeons, anesthesiologists, physical therapists, nurses and pharmacists all doing their own things, often based on knowledge that might not have been up to date,” says Siamak Rahman, MD, a UCLA anesthesiologist who has been part of the team that has worked to develop and implement the protocols. “Minimizing the variability in these activities across patients, physicians and hospitals improves outcomes and reduces costs.”

ERAS protocols were first introduced in Europe in the early 1990s, but they only recently have gained momentum in the United States; in 2018, the Institute of Medicine recommended their implementation in hospitals nationwide.

At UCLA, the first protocols were developed for colorectal surgery, driven by the goal of more rapidly returning gut function to normal so that patients can be discharged from the hospital sooner. In the last five years, ERAS protocols have been developed for a number of major surgeries, including bladder cystectomy, gynecologic oncology surgeries, joint replacement, kidney transplant and cesarean sections.

ERAS protocols consist of several care practices that are standardized for each surgery. The basic principle of ERAS protocols is a multimodal and multidisciplinary approach aimed at minimizing variability in perioperative care. “When we talk about ERAS, we don’t mean a single approach for each patient coming for surgery,” Dr. Rahman explains. “These are procedure-specific, and the approaches differ depending on the type of surgery — for example, whether a colorectal surgery is open or laparoscopic. But the basic principles and goals are similar.”

One of the main changes is directed at reducing preoperative fasting time, in some cases allowing patients to consume carbohydrate-containing clear liquids up to two hours before surgery. Strategies to enable early restarting of food and fluid after surgery can also enhance patient recovery, Dr. Rahman notes. ERAS protocols also encourage optimization of comorbid conditions such as hypertension, cardiovascular disease, smoking and obesity preoperatively. To prevent venous thromboembolism, drugs such as heparin are routinely given, in some cases 30-to-60 minutes before the surgery, and often continuing until hospital discharge. In addition to that, sequential compression devices may be placed on the patient’s legs prior to anesthesia.

Intraoperatively, there are protocols to prevent hypothermia and to protect the lungs during mechanical ventilation. Other ERAS protocols are also designed to minimize nausea and vomiting after surgery, to control glycemic

levels and to ensure the choice of the optimal antibiotic, timing of the first dose and dosage interval. Protocols also focus on early ambulation after surgery. Reducing or eliminating the use of opioids, depending on the surgery, is a major goal of the protocols, both to lower the risk of dependence and to hasten recovery. “By decreasing opioid use, we hope to maintain gut function and prevent constipation, bloating and other gut effects that increase discomfort and delay the return to eating foods following the surgery, which is a major component of the recovery,” Dr. Rahman explains.

Among the benefits of the ERAS protocols are decreased surgical stress response and less postoperative pain, Dr. Rahman notes. “One of the major purposes of all of the ERAS protocols is to reduce the length of hospital stays and prevent emergency room visits and readmissions after discharge,” he says. “These protocols are not set in stone — they are changed as new evidence comes to light — but we have already seen many of the desired results.”



For more information about UCLA’s enhanced recovery program, go to: uclahealth.org/anes/enhancing-your-recovery

“When we talk about ERAS, we don’t mean a single approach for each patient coming for surgery. These are procedure-specific, and the approaches differ depending on the type of surgery.”



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U.S. News & World Report's Best Hospital Survey ranks UCLA #1 in California and #4 in the nation.

David Geffen School of Medicine at UCLA ranks #6 in Research and #11 in Primary Care nationwide.

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Physicians Update

FALL 2020

Still #1. For Los Angeles, for California, for you and your family.

You helped us do it again! UCLA Health once again earned the #1 position in both Los Angeles and California and jumped up two spots to secure the #4 national ranking in the annual assessment of hospitals by *U.S. News & World Report*. The national honor roll is a distinction reserved for only 20 hospitals among 4,500 evaluated, and UCLA Health has appeared on the list for 31 consecutive years.

To hear one young patient's story of his UCLA Health journey, go to: tinyurl.com/nigel-story

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