ROUNDTABLE DISCUSSION

Reducing Surgical Patients' Postoperative Exposure to Opioid Analgesics

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The following is an edited transcript of a multi-disciplinary expert roundtable discussion in which surgeons, pharmacists, anesthesiologists and pain experts discuss insights and best practices for managing peri-operative pain and optimizing patient care.

Chad Brummett, MD. Welcome, panel members, to this discussion of managing acute postoperative pain. Let's begin by talking briefly about how you've come to this topic.

Andrew C. Eppstein, MD. Information from the Michigan Opioid Prescribing Engagement Network (OPEN) Program¹ and other publications got me interested. Dr. Bryan Sakamoto—my partner and fellow panelist—and I put together multimodal pain control modalities, based on our research.

Nicholas Giori, MD, PhD. Orthopedic surgeons are among the largest specialist–prescribers of opioids. We've had a problem with prescribing too much opioids and we've developed a means to control that, which I want to discuss later.

Georgine Lamvu, MD, MHP. Our division saw the opioid epidemic data about 10 years ago, and stopped using opioids for chronic pelvic pain management about 7 years ago. Opioids harm pelvic pain patients because, at least in chronic use, they make constipation and bladder and bowel dysfunction worse. This year we published a 100,000+ patient database analysis² on women with endometriosis, showing that, in this area, opioid use is *not* low. In the general population, not just in the VA (US Department of Veterans Affairs), providers still use opioids to manage chronic pain associated with endometriosis.

At the Orlando VA Medical Center, we've transitioned the gynecologic surgery division off postoperative opioids over the past 4 years. We use 2 or 3 days of opioids postop for women who have had abdominal surgery; everything else is nonopioid, based on ERAS (Enhanced Recovery After Surgery) protocols. Our patients have been fine—even though everyone panicked when we made that decision. We have one of the lowest opioid use rates among VA and non-VA institutions. We also learned that, in gynecology, postoperative patients use fewer than 50% of opioids prescribed for them.³⁻⁷

Jack D. Wright, PharmD. When I started at the VA, it was eye-opening: opioids were almost a way of life. Coming out of civilian practice after many years, I wasn't ready for what I found. Over the past 3 or 4 years, we have transitioned to safer medication practices by providing support from the pharmacy for our practitioners, through pain management tools to optimize care for veterans.

What we see from our side are patients who might have been started on opioids postsurgically, or after dental work during the acute period, with good intent, but their use becomes chronic. The challenge is getting patients to safe dosing or introducing other treatment modalities.

Role of opioids and other modalities in treating surgical pain

Dr. Brummett. How impactful are opioids in your day-to-day practice—not just in what you prescribe, but what you see coming in to your practice?

Dr. Wright. Approximately 2 years ago, 33% of the approximately 14,000 patients at our VA facility were taking an opioid chronically. Today, that percentage is about 12%.

Dr. Eppstein. We see a lot of patients coming in who are already on chronic opioids—typically, for back pain. A large percentage of our patients are geriatric; many have degenerative joint disease or a history of back surgery. With reforms leading to fewer opioid prescriptions, many come in angry: their physician "took them off the good stuff" and that now they've got "pain all the time."

Many report pain out of proportion to what you'd expect for their condition. That's because they're opioid-tolerant; postoperatively, chronically, they become a difficult clinical entity to treat. They want more pain medication than we're willing to give.

Even for patients who are opioid-tolerant, however, we no longer prescribe opioids for longer than 1 week, because of state regulations. How much we prescribe also depends on the operation. After laparoscopic surgery, we usually don't get requests for opioids after that first week. However, for an open procedure—say, laparotomy or abdominal-wall reconstruction—we get requests to extend the prescription for another week. Since I mentioned laparoscopy, one of the most important things we can do is use minimally invasive procedures on our patients to reduce pain preemptively.

Dr. Lamvu. What we've done for patients whom we think have risk factors for a postoperative difficult course—a history of anxiety, depression, prior substance abuse, prior opioid or current opioid use, etc—is to provide a 15-minute educational program preoperatively. We tell them we're not going to use opioids; instead we're going to use preoperative gabapentin, postoperative clonidine—a mix-and-match of nonopioids.

We've found success with that approach—especially with postoperative clonidine. It's oral and, unless your patient is severely hypotensive, adverse effects are minimal. For surgeons who use 1 dose of ketamine postoperatively, but are worried about side effects, clonidine can be a miracle drug.

Dr. Eppstein. We use a lot of NSAIDS (nonsteroidal antiinflammatory drugs), IV acetaminophen and, occasionally, gabapentin. Ketorolac works well—patients are usually up and moving around quicker, allowing us to transition to oral medication sooner. *Bryan Sakamoto, MD, PhD.* At our VA facility (Richard L. Roudebush VA Medical Center), depending on the service, we've developed order sets, which incorporate multimodal nonopioid medications.

Dr. Eppstein. When we anticipate a rough postoperative course, in some of cases, we provide neuraxial anesthesia—a lot of spinal and epidural blocks.

Dr. Giori. At our institution (Palo Alto VA Medical Center), we have been drug-testing all patients *before* elective surgery because we have a lot of patients using methamphetamine and we don't want to operate on them. We now have objective data on how many patients—including preoperative patients—take opioids, cannabinoids, and other substances.

In our region, among our patient population, at least based on preoperative drug screening for joint replacement surgery, the prevalence of opioid use has declined since 2012, when about a quarter of our patients were taking preoperative opioids. In 2017, that rate fell to approximately 17% – a statistically significant change.⁸

We also found that our patient population is dichotomous. Some patients get angry, as Dr. Eppstein mentioned, that we're not giving them enough to meet their expectations; others have heard the national conversation about opioids and are afraid to take them.

Dr. Wright. If you offer gabapentin, clonidine, or NSAIDs instead of opioids preoperatively, and a patient who has been on opioids comes in, what kind of feedback are you getting? Do they say "I'm going to be in pain; you have to increase my dose"?

Dr. Lamvu. One reason we don't get a lot of complaints is that we don't allow patients to experience breakthrough pain. Some providers just gave patients opioids as-needed, waited for them to be in pain, put them to sleep with an opioid, and then waited for them to wake up in pain again, and so on. A lot of preoperative anxiety goes away once you improve postoperative pain control.

We don't take a patient into surgery until they can say, "OK, I'm ready to face this now; I think I got it." Because we do a lot of elective surgery, we have the luxury of being able to wait until the patient is ready. The cost of education is worth it, as far as improving satisfaction postoperatively and giving us better patients to work with.

Dr. Eppstein. You have to set expectations ahead of time: that they're not going to be pain-free and that they are going to have pain, but that you'll control it as well as possible. At least in the immediately preoperative period, we try not to escalate opioids.

Regrettably, however, many complaints about pain come at night, when a junior resident might throw

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opioids at the patient. After surgery, I typically recommend keeping the patient on ketorolac or IV acetaminophen for 36 hours, and try pain-control modalities other than opioids, which are difficult to wean patients from.

I also do less patient-controlled analgesia nowadays. Instead, we try to get patients on oral medication, with limited IV opioid analgesia for breakthrough pain as needed.

Dr. Brummett. Thinking about the impact of the opioid epidemic and opioid-based care in your system, are there populations particularly at risk of dependency? Who might need a different pattern of care? I'm thinking about active versus retired military. Is there a more challenging population than the men and women who serve?

Dr. Wright. In southern West Virginia, we see patients who are not necessarily retired; they served 5 or 6 years, got out, and went to work in the coal mines. So we deal with many veterans 65 to 85 years old. Recently, we had a 92-year-old patient

who takes 300 mg of morphine equivalent a day. That's where the bulk of opioid use is.

We don't see this problem in younger veterans because we're educating them. We know that it's easier to have that conversation with a first-time patient who has chronic back pain or postoperative pain, to

tell them that we want to treat them with alternatives instead of opioids.

Dr. Lamvu. I take care of chronic pelvic pain and back pain mostly, so I'm biased, but I agree. Most patients whom we see on chronic opioids are older women. The younger generation rarely comes to us on opioids, even when they have multiple chronic pain syndromes.

Within my VA facility, primary care providers have done a massive job weaning patients off opioids or bringing their dosage down. Rare is the day when I see someone who is taking more than 100 morphine equivalent daily dose. At least at my institution, the transition to either lower dosages of opioids or complete weaning has happened fast.

Dr. Giori. We've seen an objective decrease in preoperative opioid use among our patients.

Dr. Brummett. But what the data support is that younger patients are more problematic. They consume more opioids postoperatively. Do you see more challenges in managing their pain in your population?

Dr. Eppstein. By far, most of my patients are Vietnam-era veterans. But as for the few younger patients I have, yes, they seem to have more problems with pain control imme-

diately postoperatively than older generations do. On the other hand, they defervesce quickly.

Following Guidelines, Applying Best Practices

Dr. Brummett. Let's talk about guidelines and best practices on the use of opioids in pain management, such as the work of the University of Michigan's OPEN, which Dr. Eppstein mentioned (and with which I'm affiliated). What guidelines or pathways, local or national, especially in the VA system, do you use when thinking about managing postoperative or perioperative pain?

Dr. Eppstein. I use the OPEN prescribing recommendations and the consensus guidelines out of Johns Hopkins University School of Medicine.⁹ I also follow Centers for Disease Control and Prevention (CDC) guidelines¹⁰: no more than 20 pills of oxycodone, as a 5 mg oxycodone equiv-

alent.

In addition, the State of Indiana requires that no more than 7 days' worth of opioids be prescribed. In an opioid-naïve patient, therefore, we try to keep the prescription at 10 to 15 tablets; that recommendation is being incorporated into residency training at the Indianapolis

VA Medical Center, because residents tend to write most of the prescriptions at discharge. In the training programs with which we grew up, it was "prescribe as much medication as you think the patient needs." Now, we have data on how much pain medicine patients actually use; we should use that data as best practice.

Dr. Lamvu. We've combined guidelines to come up with our own based on: the VA/Department of Defense postsur-gical guidelines,¹¹ CDC guidelines,¹⁰ and US Department of Health and Human Services Best Practices.¹² What we did differently was create postoperative pain management order sets of different combinations of medications before you even get to opioids. Using our own protocols, patients seem happy.

Dr. Giori. Educating clinicians who order the medications, including APPs (advanced practice providers) and residents, is important. Orthopedics might be behind general surgery in this regard. Our surgeries involve bones—they tend to be painful. I would love to get to a "no opioid postoperative course," but we're not there.

We developed our own protocol at at the Palo Alto VA Medical Center for prescribing postoperative opioids. It's patient-specific and based on objective data on how much they use while hospitalized. Using that protocol, we It's been difficult to convince

providers that patients can do well

without opioids. Once a prescrib-

ing practice is ingrained, providers

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found a tremendous reduction in opioids prescribed and requests for refills: a win–win. The reduction in refill requests might reflect the fact that fewer people are becoming dependent long-term.

Dr. Brummett. When we talk about general surgery or gynecologic surgery, we're looking at a couple days of pain during which opioids might be warranted. In orthopedic cases, potential for tolerance is greater, especially

in those first postoperative days; without a weaning protocol, all of us have heard stories of acute withdrawal leading to more opioid use, then to refills, then soon the patient is truly tolerant and the case becomes an adventure—and not a good one.

Dr. Wright. At Beckley VA Medical Center, we concentrate on orthopedics and general surgery patients. In West Virginia, you can prescribe 5 days of opioids for acute or postoperative care. Because we don't have residents, late-night telephone calls go back to the primary care provider, who, because of the education we're providing, isn't refilling postoperative opioids. The patient knows, up front, what to expect to receive for postoperative. Also, at follow-up, the primary care provider says, "We're going to offer you some of these whole-health options such as acupuncture and chiropractic care."

Dr. Brummett. That's a Swedish and Danish model: the surgeon does surgery and primary care follows up. In those countries, they simply prescribe less opioids. They also send patients home with some number of pills but *without* an understanding of how many they actually use. Why? Because if anything happens, the patient goes to the primary care provider. You could argue that, in some ways, this model offers better coordination of care because the person who's going to be handling the problem in the end is involved earlier on.

The Value of Patient and Clinician Education

Dr. Brummett. We've talked about the importance of education. Do you have formal education materials on pain management?

Dr. Giori. We have home-grown materials, which involve preoperative teaching for the entire operation—not only specifically pain medications, although pain control is a part. But we have a problem with geographic spread. For example a preoperative class is difficult because our patients often live so far away.

Dr. Lamvu. We use materials designed in our clinical practice. We also use those materials to teach our nurses and the rest of the team, because we want patients to get a consistent message—whether from the nurse, physician, or resident.

Dr. Wright. We have what's called an "academic detailer": a clinical pharmacist who works with the different providers, nursing staff, and social workers to educate them about

changes and updates in pain management. We standardize education across the board.

About the postoperative patient who is going to be seen in primary care, our primary care providers need to know what the surgeons are seeing, and the surgeons have to

know what primary care is seeing. For safety, we need to be on the same page; we don't want a postop pain or a chronic pain patient jumping from provider to provider, some of whom prescribe more, some less.

Dr. Eppstein. At our hospital, we're somewhat providerdependent, and therefore inconsistent: Some prescribe more medication than others, some use multimodal therapies more than others.

Dr. Giori. What do you find is the best way to communicate preop education on pain? Face to face? By telephone? How long should education take? What is the best format?

Dr. Brummett. Michigan OPEN has preoperative educational materials freely available on our Web site, targeting surgery, dentistry, and oral surgery and written in English, Spanish, and Arabic. We permit health systems to brand them. We've also developed a shared decision-making model for postoperative hysterectomy that included educating patients and helping them be part of pain management decisions. Data on this program were published recently.^{3,13}

With the support of Blue Cross and Blue Shield of Michigan, we've seen success with incorporating a modifier 22 pathway, with which surgeons are able to increase their professional fee if they lower the amount of opioid they prescribe, below what guidelines encourage.¹⁴

Dr. Lamvu. It's been difficult to convince providers that patients can do well without opioids. Once a prescribing practice is ingrained, providers are often not willing to change. To get providers to change habits, we tell them, "Start with the patients that you're comfortable with and who you think are good candidates for whom you can prescribe minimal-dosage opioids." We try to build confidence that their patients can do well with less or no opioids.

Presurgical Screening for Opioid Use

Dr. Brummett. Do you provide routine screening for opioid use disorder before surgery, and assess continued use postop? Do you use any formal mechanisms to assess and address chronic use?

Dr. Eppstein. In Indianapolis, we instituted routine urine drug screens last year for all surgical patients. We also use IN-SPECT (the Indiana Board of Pharmacy Prescription Monitoring Program) to review preop prescriptions that patients have, from the VA or outside providers.

Dr. Lamvu. We automatically do what we call "RED" for preop evaluations—our nickname for reminding staff to provide \mathbf{R} isk assessment (screening for risk factors) and \mathbf{E} ducation, and to address \mathbf{D} ysfunction preoperatively. For patients who have severe anxiety or depression or severe bowel dysfunction that we know will complicate the surgical outcome, we tell the team that these problems need to be addressed.

We do *not* have a formal process for tracking opioids used postoperatively. We're biased because our opioid use is so low.

Dr. Giori. We're rolling out a study in which our programmers use the The VA Corporate Data Warehouse

to look at opioid use in our patient population across all of surgery at our hospital. The programmers are writing code that will allow them to provide a report on patients' opiate use to the chiefs of our surgical subspecialty services. This will be a powerful tool by which to track opioid use trends.

I'm also working with the pharmacy department here in our VISN (Veterans Integrated Service Network) to create the same kind of tool for orthopedics services across the VISN. If we find outliers in the use of opioids, we can intervene and work to reduce that use, applying practices we've developed at any facility in our VISN.

Dr. Wright. We work similarly at Beckley VA Medical Center, including preoperative risk assessment when we see someone who appears to be at risk. We use the state's prescription drug monitoring program, which helps us identify patients getting opioids outside of the VA. Rarely do we perform urine drug screening prior to surgery.

Postoperatively especially if the patient has signed a pain contract, our educational material comes into force. If they have to seek emergency care postsurgery at a non-VA facility, the patient must inform their primary care provider that they've received opioids.

The pharmacists have become interested in our pain protocol and how we prescribe opioids. They helped develop our current protocol and in our outreach to the rest of the facilities in our VISN.

Teaming Up with Pharmacy and Anesthesiolgy

Dr. Brummett. What about the the role of the anesthesiologist and pharmacist in perioperative pain management planning?

Dr. Sakamoto. In Indianapolis, planning is servicedependent, but anesthesia coordinates with pharmacy and the surgeon to accommodate those services.

Dr. Wright. I had the opportunity to work in a Washington, DC, VA facility that has a larger surgery department, where a couple of pharmacists were working on pain management across the board. They were sitting down with patients for medication reconciliation and working with the anesthesiologist and the surgeon to ensure that we weren't going to have medication problems going into surgery and postoperatively.

Dr. Giori. We take a holistic view, incorporating all asso-

ciated services. Once a week, we round as a team with the anesthesiologist, social workers, and discharge planners. A pharmacist also rounds with us, so that we develop a personal relationship. The pharmacists have become interested in our pain protocol and how we prescribe opioids. They helped develop our

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Dr. Eppstein. We routinely have pharmacists rounding with our surgical intensive care unit team, but we don't have that arrangement with surgical wards. We see better pain control in patients who are in a monitored unit than we do on the floors.

Dr. Lamvu. We work closely with our anesthesia team; they're aligned with our protocols. Likewise, we educate and work closely with our PACU (post-anesthesia care unit) nurses; they have to be aligned with our work because we do a lot of outpatient surgery. They know that, if it's a gynecology patient, don't call for Dilaudid (hydromorphone)— ask for clonidine first. We don't routinely use pharmacy for help with preop or postop pain management.

Dr. Brummett. What about having surgical physician assistants routinely involved in postoperative pain management, instead of trainees?

Dr. Eppstein. We have nurse practitioners in the clinic. They see patients postoperatively and are involved in

writing sometimes, but always with the input of the operating surgeon.

Dr. Giori. We also have APPs—nurse practitioners and PAs who write postoperative orders. Having a consistent person helps to maintain consistency in ordering postoperative narcotics. Weekends, when APPs are not working, the residents write discharge medications; that's when we have the hardest time maintaining protocol.

More Options are Needed

Dr. Brummett. Are you satisfied with your options for managing postoperative pain? Or do you want more? What challenges do you see, with opioids and non-opioids?

Dr. Eppstein. I'd like to see medications that can be administered at the time of surgery. The problem with using a lot of blocks—such as liposomal bupivacaine or bupivacaine mixed with dexamethasone—is that they don't last. Liposomal bupivacaine lasts a couple days, but the main pain hump is usually 3, sometimes 4, days. I want an analgesic that works for a week without requiring supplementary oral medication.

Dr. Brummett. So you want a local anesthetic that works a week. For block or subcutaneous administration?

Dr. Eppstein. For block.

Dr. Brummett. What if it was a dense sensory and motor block for a full week?

Dr. Eppstein. Sensory, yes. Motor, not so much.

Dr. Lamvu. Combination drugs are my dream: an NSAID plus a gabapentinoid, or 2 NSAIDs, or an NSAID plus a stool softener *in the same pill.* We're doing multimodal therapy well, but the problem now is that patients are taking 2 or 3 pills instead of just 1.

Dr. Brummett. Gabapentinoids have had a mixed response in the literature.

Dr. Wright. It's a compliance problem. The patient, the veteran, is often on multiple medications anyway, and now they have to take a stool softener and a pain medication. The count starts adding up.

Dr. Brummett. Anything that decreases pill burden would be positive.

Dr. Giori. If I were to ask for the perfect option, it would

simplify matters, not complicate them—an injectable solution that you can put in the field of the surgery that numbs up only that particular area but allows full function and sensory ability. Liposomal bupivacaine has shown promise, but an extended analgesic effect has not been borne out.¹⁵ I don't use it, it's expensive, and the orthopedic literature has not supported its efficacy beyond that of bupivacaine alone, or ropivacaine.

Dr. Eppstein. We use liposomal bupivacaine routinely for open inguinal hernia repair, for example. For patients who have an open inguinal hernia repair, a TAP (transversus abdominis plane) block with liposomal bupivacaine cuts down on pain.

Dr. Lamvu. Our pharmacist won't approve liposomal bupivacaine for a TAP block because it isn't FDA-approved for that indication.¹⁶

Dr. Brummett. So it sounds like everyone on the panel is administering some variety of local anesthetics subcutaneously, some with liposomal bupivacaine, some not.

Dr. Eppstein. There's a lot of variation in surgery. One way I kind of keep track of what other surgeons are doing is to note what the residents coming through do or don't do. Not every surgeon injects local anesthetic subcutaneously before making an incision; some inject it afterwards, which I was taught is wrong.

Many surgeons, at least in general surgery at our facility, don't use blocks. Others use blocks for everything—TAP block for cholecystectomies or surgeries of the upper abdomen, where it may not be quite as efficacious.

Dr. Giori. There's been a trend toward using blocks in orthopedics, including peripheral nerve blocks and field blocks, but not uniformly among surgeons.

Dr. Brummett. Are local anesthetics primarily for open procedures—I'm thinking abdominal surgery—or for laparoscopic procedures, for port-site infiltration?

Dr. Eppstein. For laparoscopic cases, I always inject port sites before making the incision. For open procedures, it varies: I always inject local anesthetic for skin lesions and open hernia repairs, but not always for a laparotomy, for example.

Dr. Brummett. Would you inject liposomal bupivacaine in port sites?

Dr. Eppstein. I tend not to. I do use it for the TAP block if we're doing the block at the same time.

Dr. Lamvu. We do TAP blocks for all open abdominal cases. We do pre-incisional lidocaine or bupivacaine for our

laparoscopic cases. For a vaginal incision, we preemptively inject the vaginal cuff with lidocaine or bupivacaine. We were using liposomal bupivacaine for abdominal incisions, but we had such a good response with TAP block that we changed our approach to lidocaine (non-liposomal) or bupivacaine TAP blocks.

Dr. Brummett. Who uses indwelling catheters or almost exclusively single-shot blocks?

Dr. Eppstein. At the VA we strictly use single shots. We don't place catheters.

Dr. Lamvu. The same is true at our facility.

Dr. Brummett. For your knees, Dr. Giori?

Dr. Giori. Our anesthesiologists place an adductor canal block in all knee replacements, or a fascia iliaca compartment block or an erector spinae block for total hip arthroplasty, higher in the spine.

Dr. Brummett. How often are blocks problematic in your postoperative care because of adverse effects from a failed block?

Dr. Sakamoto. Since we've moved to US (ultrasonography)guided blocks, to my knowledge, I haven't seen failures or complications, such as intravascular injection.

Dr. Eppstein. The only problem I've seen is in patients with an epidural catheter, who tend to have hypotensive effects from the catheter.

Dr. Giori. We hit the nerve twice, more proximally and then around the field, which makes it hard to tell whether we're experiencing failures.

Dr. Brummett. When you think about nonopioid analgesics that you'd like to use, do you encounter roadblocks? How often?

Dr. Sakamoto. Our pharmacy department is excellent at this. If we want it, they'll usually get it; there's no issue.

Dr. Lamvu. We haven't hit major roadblocks using IV medications compared to orals, or with using acetaminophen or other medications. The most common problem is that some people are allergic to NSAIDs or have severe gastroesophageal or gastric disease. Also, we use ibuprofen as our most common NSAID, and if we're use a high dosage—in gynecology, as much as 800 mg TID—we can induce constipation and gastric problems. With gabapentin, sometimes we see drowsiness at higher dosages.

Dr. Eppstein. The only problems with using these other mo-

dalities are sensitivity or contraindication to that particular class of medication.

Dr. Giori. I'm concerned about polypharmacy. We talk about multimodal therapy, except that the more medicines we pile on, the more we can confuse patients, which makes adherence to the protocol difficult. I would like to see simplification, not adding medications.

Dr. Brummett. There are simple means that we can use— NSAIDs, acetaminophen, oral or IV. Those are almost nobrainers, except in patients with severe gastritis or severe renal disease. But what do you layer on next? It gets complicated and nuanced then.

Prolonged Use of Opioids

Dr. Brummett. I want to address persistent opioid use and associated morbidity. It tends to be defined as continued use in the 3 to 6 month postoperative period. Our current definition is a refilled prescription in the first 90 days, refilled again between 91 and 180 days.

Dr. Lamvu, in doing risk assessment preoperatively, do you think about risk factors for prolonged use, or about comorbidities and prolonged use?

Dr. Lamvu. We routinely screen for chronic pain (pelvic and non-pelvic) and nonpain comorbidities.

Dr. Giori. We don't do a formal screen for risk factors for prolonged use or comorbidities. We do look to see if patients are already on narcotics, preoperatively—but nothing specific for opioid-naïve patients at risk of dependency after elective surgery.

The patients we care for are having elective surgery, however; for patients with advanced arthritis or other strong indication for having their pain treated, I wouldn't withhold surgery because of concern about prolonged opioid use.

Dr. Eppstein. We treat malignancies that must be addressed, or hernias, or chronic cholecystitis—all painful aside from the pain of surgery. We don't think long-term, only about taking care of the immediate problem, anticipating that we're not creating a chronic problem.

Dr. Wright. We perform risk assessment to see what the patient is currently taking and if he or she is at risk post-operatively. I agree with Dr. Eppstein: when our surgeons are focused on treating the underlying cause, they're probably not thinking about secondary issues. That concern falls to the primary care provider at follow-up.

Dr. Lamvu. For us, assessment is geared toward identifying

patients who might do poorly with postop pain control. For them, we spend extra time on education—and avoid opioids.

Dr. Brummett. Our data show that becoming a new chronic opioid user is the most common complication after major or minor elective surgery.¹⁷ The rate is 5% to 6.5%, depending on the surgery.

Weaning Patients from Opioids

Dr. Brummett. Dr. Giori, what is your weaning protocol?

Dr. Giori. First, we don't believe that the surgical procedure itself dictates how much of an opioid to give postoperatively; each patient requires a different amount, even during the postoperative stay. So we've gone patient-specific: we look at how much opioid patients used during the 24 hours before discharge, and send each one home with a personalized amount of opioid, based on the record.

Second, we see patients in clinic who come back and ask for more opioids, even when they say that they've been using it as directed. If we wrote the prescription as, say, "take 1 or 2 tablets every 4 to 6 hours as needed for pain," they might say "I'm taking 2 tablets every 4 hours just as you said I should." Instead of falling into that trap, we write a detailed taper of the opioid. Not only do patients go home with a personalized amount; they are given individualized instructions on how to wean. Combining those 2 strategies, we've been able to meaningfully reduce the amount of opioids we prescribe.

Of course, for outpatient surgical patients, we don't have 24 hours on which to base a taper. We fall back on generally accepted procedure-specific amounts, but go low because we believe that outpatient surgery shouldn't require that much opioids.

Dr. Brummett. A recent study showed that the best presictor of how much opioid people use after general surgery is how much they use during the 24 hours before they were discharged.¹⁸ Your tailored weaning plan is important.

Thank you, panelists, for sharing insights from your practice and institutions on how you keep opioids to a minimum in surgical practice—while still providing necessary pain relief.

Author Disclosures

Dr. Brummett discloses that he is a consultant and advisory board member for Heron Pharmaceuticals. He reports grant/research support from NIH-DHHS-US-17-PAF02680 (R01 DA042859-05); NIH-DHHS-US-16-PAF06270 (R01 HD088712-05); NIH0DHHS-US-16 PAF 07628 (R01 NR017096-05); NIH-DHHS-US (K23 DA038718-04); MDHHS (Sub K Michigan OPEN); NIH-DHHS (P50 AR070600-05 CORT); NIDA (R01 DA038261-05); and UM Michigan Genomics Initiative.

Dr. Lamvu discloses that she is the chair of board for the International Pelvic Pain Society.

Drs. Eppstein, Giori, Sakamoto, and Wright have no relevant conflicts of interest to disclose.

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References

- The Michigan Opioid Prescribing Engagement Network. https://michigan-open.org/. Accessed October 19, 2019.
- Lamvu G, Soliman AM, Manthena SR, et al. Patterns of prescription opioid use in women with endometriosis. *Obstet Gynecol.* 2019;133(6):1120-1130.
- Vilkens AL, Sahara M, Till SR, et al. Effects of shared decision making on opioid prescribing after hysterectomy. *Obstet Gynecol.* 2019;134(4):823-833.
- Lamvu G, Feranec J, Blanton E. Perioperative pain management: an update for obstetrician-gynecologists. *Am J Obstet Gynecol.* 2018;218(2):193-199.
- Blanton E, Lamvu G, Patanwala I, et al. Non-opioid pain management in benign minimally invasive hysterectomy: A systematic review. *Am J Obstet Gynecol.* 2017;216(6):557-567.
- Barron KI, Lamvu G, Fisk M, Schmidt RC, Blanton E, Patanwala IY. Wound infiltration with extended-release versus short-acting bupivacaine before laparoscopic hysterectomy: a randomized controlled trial. J Minim Invasive Gynecol. 2017;24(2):286-292.
- Patanwala I, Ouyang C, Fisk M, Lamvu G. Opioid prescription usage after benign gynecological surgery: a prospective cohort study [published ahead of print July 15, 2019]. *J Minim Invasive Gynecol.* doi: 10.1016/j.jmig.2019.07.007.
- Denduluri SK, Woolson ST, Indelli PF, Mariano ER, Harris AHS, Giori NJ. Cannabis use has increased among patients with advanced arthritis who were scheduled for total joint arthroplasty, while opiate use has decreased: a five-year, single-institution study. Western Orthopedic Association Annual Meeting, Monterey, CA, July 31-August 3, 2019.
- Overton HN, Hanna MN, Bruhn WE, Hutfless S, Bicket MC, Makary MA; Opioids After Surgery Workgroup. Opioid-prescribing guidelines for common surgical procedures: an expert panel consensus. *J Am Coll Surg.* 2018;227(4):411-418.
- Centers for Disease Control and Prevention. CDC guideline for prescribing opioids for chronic pain. August 28, 2019. www.cdc.gov/ drugoverdose/prescribing/guideline.html. Accessed October 13, 2019.
- 11. The Management of Postoperative Pain Working Group. Veterans Health Administration, Department of Defense. VHA/DoD clinical practice guideline for the management of postoperative pain. Updated May 2002. www.healthquality.va.gov/guidelines/Pain/pop/ pop_fulltext.pdf. Accessed October 13, 2019.
- Pain Management Best Practices Inter-Agency Task Force. Pain Management Best Practices. https://www.hhs.gov/sites/default/files/ pmtf-final-report-2019-05-23.pdf. May 9, 2019. Accessed October 19, 2019.
- Hallway A, Vu J, Lee J, et al. Patient satisfaction and pain control using an opioid-sparing postoperative pathway. *J Am Coll Surg.* 2019;229(3):316-322.
- Howard R, Hallway A, Santos-Parker J, et al. Optimizing postoperative opioid prescribing through quality-based reimbursement. *JAMA Netw Open.* 2019;2(9):e1911619.
- Purcell RL, Brooks DI, Steelman TJ, et al. Fascia iliaca blockade with the addition of liposomal bupivacaine versus plain bupivacaine for perioperative pain management during hip arthroscopy: a double-blinded prospective randomized control trial. *Arthroscopy*. 2019;35(9):2608-2616.
- Exparel (bupivacaine liposome injectable suspension) [package insert]. Parsippany, NJ: Pacira Pharmaceuticals, Inc.; Revised November 2018. www.exparel.com/hcp/prescriptioninformation.pdf. Accessed October 13, 2019.
- Brummett CM, Waljee JF, Goesling J, et al. New persistent opioid use after minor and major surgical procedures in US adults. *JAMA Surg.* 2017;152(6):e170504.
- Hill MV, Stucke RS, Billmeier SE, Kelly JL, Barth RJ. Guideline for discharge opioid prescriptions after inpatient general surgical procedures. J Am Coll Surg. 2018;226(6):996-1003.