

## Best Practices for the Use of Opioids in Ophthalmology

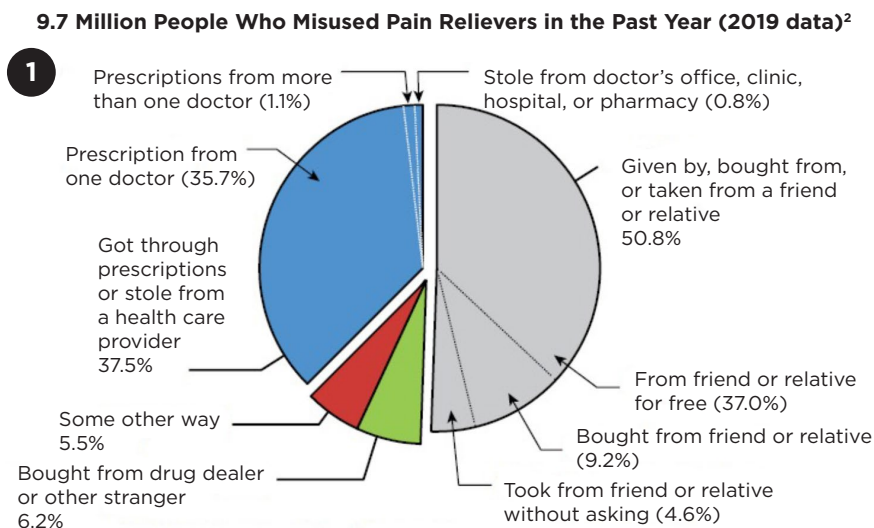
**T**he toll from opioid abuse has continued to rise in recent years, with overdose deaths in the United States from all types of opioids hitting a high of 49,860 in 2019.<sup>1</sup> And these deaths are only the tip of the iceberg. The 2019 National Survey on Drug Use and Health estimates that 1.7 million people have opioid use disorder, while as many as 9.7 million persons reported having misused prescription pain medications.<sup>2</sup>

According to the CDC, most opioid dependency starts with a prescription drug.<sup>3</sup> Thus, careful assessment of prescribing patterns is a key part of the solution. Fortunately, findings from recent studies show how ophthalmologists can help reduce the potential for substance abuse without compromising patient comfort.

### Two Paths to Trouble

“Long-term opioid addiction often starts with abuse of appropriately prescribed treatment for acute pain,” said Shriji N. Patel, MD, MBA, at Vanderbilt Eye Institute in Nashville, Tennessee.

He added that “duration is a very important predictor” of a patient’s susceptibility to opioid dependence. One study showed that the probability of chronic use increased every day after the third day of medication; five days’ duration was associated with 10% prob-



**SOURCES OF PILLS.** More than half of misused pain medications were obtained or stolen from a friend or relative, demonstrating the importance of limiting the number of pills prescribed and encouraging proper disposal of any left over.

ability of continuing use at one year.<sup>3</sup>

However, opioids can cause problems even if a patient doesn’t take them for long. In their 2020 study, Xie and colleagues noted that opioids are “overprescribed and underused” in various surgical specialties. The authors explained that when more pills are prescribed than the patient actually needs, the excess opioids are rarely disposed of properly and are sometimes diverted for illicit uses<sup>4</sup> (Fig. 1).

How do the prescribing patterns in ophthalmology fit into these troubling trends?

### Opioid Use in Ophthalmology

Dr. Patel and Paul Sternberg Jr., MD, analyzed Medicare Part D prescriber data from 2013 to 2015. They found that, overall, ophthalmologists have shown restraint in their opioid prescribing: Approximately 90% wrote 10 or fewer opioid prescriptions annually, while only 1% wrote more than 100 annually. The average number of prescriptions for those who wrote more than 10 per year was 41 to 44 during the study period, and the mean duration of medication was five days.<sup>5</sup>

These figures for ophthalmologists are dwarfed by those of other specialties. For example, the average number of opioid prescriptions per provider was reported as 438.7 in orthopedics and 428.4 in family medicine.<sup>6</sup>

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A 2019 study drew on a large insurance database of non-Medicare patients who filled opioid prescriptions after incisional ophthalmic surgery from 2000 to 2016. Although the percentage of patients who filled such prescriptions doubled over this period, the overall rate was low, ranging from 1.24% to 2.51%.<sup>7</sup>

**Pain control needs vary by subspecialty.** The same study found that the percentage of filled prescriptions varied widely by type of surgery, with trauma, strabismus, and retina having the highest rates.

Ophthalmic surgeons at the Mayo Clinic in Rochester, Minnesota, assessed the need for opioid pain medication in 18 types of procedures. By consensus, they judged that the majority of procedures, including cataract surgery, vitrectomy, keratoplasty, and blepharoplasty, do not generally call for opioids; orbital procedures such as orbitotomy and enucleation could be managed appropriately with higher levels of opioids, with other oculoplastic and retinal surgeries falling in between.<sup>8</sup>

**How to Improve Prescribing Institutional guidelines.** “Although ophthalmologists are generally judicious

in our opioid prescribing, we can always strive to improve further,” said Shannon S. Joseph, MD, MSc, at the University of Michigan Medical School in Ann Arbor. “Evidence-based guidelines to establish the optimal dose range for both opioid and nonopioid alternatives for different types of procedures would be helpful. It is important that these guidelines balance the goals of limiting unnecessary opioid prescription and ensuring patient comfort and pain control.”

**The Mayo experience.** The Mayo Clinic quality improvement study looked at the effect of such guidelines on prescriptions before and after implementation. These guidelines highlighted several key points for reducing opioids. Perhaps most important, they stressed that nonopioid analgesics should be considered the first-line therapy for pain management. They also recommended an appropriate level of opioid dosing—level 0, none; level 1, maximum oral morphine equivalent (OME) of 40; and level 2, maximum OME of 80—for various ophthalmic surgeries. Further, no more than a seven-day supply should be prescribed; beyond that, the patient should be referred to the pain management

department. Even within that time period, the guidelines encourage tapering the opioid and switching to nonopioid analgesics as soon as possible.<sup>8</sup>

The study showed that after these guidelines were implemented, both the number of prescriptions and the levels of OME decreased significantly. However, the authors emphasized that continuing education and awareness are necessary, as 48.1% of prescriptions still did not conform to the guidelines after the intervention, compared with 89.6% before.<sup>8</sup>

**Education and informed consent.** The Vanderbilt University Medical Center, where Dr. Patel practices, has also implemented guidelines that include an opioid education platform and an agreement to be signed as part of the informed consent. He said, “When you have to put pen to paper, it’s an extra layer of protection. It makes you pause to think, Is this indicated? Are there other options for us? It’s a great way to approach the discussion in a formal, structured fashion.”

**Government policies.** Currently, most states have either guidelines or regulations for the use of opioids in pain management, and their scope varies widely. According to Dr. Patel, it is paramount that “regulation really should be data-driven. You don’t want practitioners to feel restricted from helping their patients in pain.”

Maria A. Woodward, MD, MSc, at the University of Michigan, said that her state’s drug program is the result of “a key collaborative effort between policy makers, physicians, and patient groups.” Among its provisions, physicians are required to talk with their patients about the risks of opioid misuse, filing an informed consent form signed by the patient before the drugs are prescribed. Similar to Dr. Patel’s experience, she said that “having the patient sign an acknowledgment creates an active interaction around prescribing opioids.” Moreover, she said, it prompts the physician to “prescribe with intention and a thoughtful awareness of possible ramifications.”

Dr. Joseph added, “These tasks certainly take time, but usually no more than a few minutes, and it is time well

## From Prescription to Illicit Drugs

The majority of deaths from opioids and opiates are not from prescribed pharmaceutical drugs but rather from street drugs such as heroin and, increasingly, illicitly manufactured fentanyl (or a combination). What’s the connection?

Prescription opioids are often the gateway drug: Most (75%) people who began abusing opioids or opiates in the 2000s reported that their first exposure was to prescription opioids, with a later switch to illicit drugs driven by lower cost and greater availability.<sup>1</sup>

According to Dr. Patel, “Opioid addiction is frequently rooted in a legitimate prescription for a serious medical or surgical problem. Prescribers should take into account the possibility of precipitating dependence. If prescriptions are not written with abuse potential in mind, we risk creating a problem.” He added, “Almost abruptly, patients are cut off from legitimate means of accessing medications that they may very well need for pain control or dependence. Then, some patients, almost out of necessity, are forced to obtain substitutes outside of traditional avenues.”

1 National Institute on Drug Abuse. Prescription Opioids and Heroin Use Report. January 2018. [www.drugabuse.gov/publications/research-reports/prescription-opioids-heroin](http://www.drugabuse.gov/publications/research-reports/prescription-opioids-heroin). Accessed Sept. 22, 2021.

spent.” This statement is proved out in a cross-sectional retrospective review study coauthored by Dr. Joseph that looked at prescribing patterns before and after implementation of Michigan’s opioid regulations. In the population of 3,781 patients who had orbital or oculoplastic surgery during the study period, 88% received opioid prescriptions before the regulations, compared with 50% afterward. Moreover, the mean morphine milligram equivalent decreased by 36.2%.<sup>4</sup>

Expanding on her experience in Michigan, Dr. Joseph said, “I think a multilevel approach to system-wide regulation, involving synergistic national, state, and institutional efforts, would work best.”

## Practical Pointers

Although guidelines and regulations are critical in the decision-making process, the ultimate responsibility for prescribing rests with ophthalmologists themselves, using clinical judgment to balance such guidance against the needs of their individual patients. Drs. Joseph, Patel, and Woodward offered the following pointers for consideration.

**Think twice about the need for opioids.** The Mayo guidelines concluded that opioids are not warranted for many ophthalmic surgical procedures. Dr. Joseph agreed, saying, “We often may not prescribe any opioids at all or recommend only nonopioid analgesics for soft tissue surgery such as ptosis surgery and blepharoplasty.”

**Keep alert for trouble.** “Watch out for early signs of addiction,” advised Dr. Patel. For example, a patient might use up a five-day supply in the first day or two.

**Limit the amount and duration of the prescription.** “Oculoplastic surgical procedures may induce more postoperative pain than other ophthalmologic procedures such as cataract surgery,” said Dr. Joseph. “Even so, we usually only prescribe opioids to be used on an as-needed basis for a few days, and do so only for the more extensive procedures, such as orbital surgery.”

**Coach and communicate.** A key element in the process is talking to patients about why prescribing fewer

opioids is beneficial—and checking in with them for feedback about their pain control, said Dr. Woodward. A study that she coauthored found that patients who received fewer tablets (approximately seven versus about 19 in the higher-prescription group) reported adequate pain control.<sup>9</sup>

**Head off pill hoarding.** Dr. Woodward added that prescribing the right number of doses can reduce pill hoarding and the likelihood that the drugs could fall into the wrong hands.

In addition, she recommends asking patients if they have any medications at home that they can take for pain. This prompts the patient to remember the half-finished bottle of oxycodone from last year’s root canal and saves the doctor from having to write a new prescription. And the patient will avoid the temptation to build up a pharmacy in their house.

**Discuss disposal.** Along with counseling patients on appropriate use of these medications, physicians should also emphasize proper disposal of any extras. “It starts with knowing what your hospital’s recommendations are and what local resources may be available, like pharmacies in the community,” said Dr. Woodward, “and then helping your patients find what would work best for them.”

**Resist refills whenever possible.** “I typically give a three-day course, and if pain is not controlled, I bring them back in to better understand why their pain is uncontrolled,” said Dr. Patel. However, he said, “There is, of course, the occasional patient who requires more postoperative pain medicine, and we will accommodate those needs if clinically indicated.”

Dr. Woodward and colleagues found that 3.4% of the 14,841 patients who filled an opioid prescription during the perioperative period continued to fill opioid prescriptions more than 90 days later.<sup>10</sup> “It’s a pretty scary number,” she said.

## The Impact of Improvement

Even the best practices for opioid prescribing in ophthalmology will have a negligible effect on the overall opioid crisis in the United States, as opthal-

mic prescriptions constitute a minuscule fraction of the total. But, said Dr. Woodward, “As physicians, we treat the person in front of us. I don’t think that the size of the problem reflects the potential impact we can have on an individual’s and a family’s lives.

“If we are willing to ask our patients about opioid misuse, we often hear stories about a son, an aunt, a neighbor—someone they know—who has a problem. It touches all of us. So when we prescribe with consideration and intent, we’re taking care of our patients—and the community around them.”

1 CDC. Drug Overdose Deaths. [www.cdc.gov/drugoverdose/deaths/](http://www.cdc.gov/drugoverdose/deaths/). Accessed Sept. 22, 2021.

2 Key Substance Use and Mental Health Indicators in the United States: Results from the 2019 National Survey on Drug Use and Health. HHS Publication No. PEP20-07-01-001, NSDUH Series H-55. Rockville, Md., 2020.

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