On May 15, 2018, a roundtable of pharmacists was convened to discuss prescription fulfillment of nonsteroidal anti-inflammatory drugs (NSAIDs) for cataract surgery. To gather varied perspectives, pharmacists from 5 US states* participated in a robust discussion about the role of ophthalmic NSAIDs in cataract surgery, one surgeon’s clinical rationale for choosing specific ophthalmic NSAIDs, reasons for substitutions of ophthalmic NSAIDs at the pharmacy, and best practices for ensuring fulfillment of ophthalmic NSAIDs as prescribed, including the importance of building relationships between ophthalmic surgeons and their local pharmacists.

In addition to geographical diversity, the participants came from a diverse group of pharmacies in terms of size, number of locations, customer demographics, length of time in practice, and pharmacy type (independent or part of a chain). All of the participating pharmacists have had experience filling prescriptions for NSAIDs after cataract surgery.

The discussion was moderated by ophthalmologist Inder Paul Singh, MD, of the Eye Centers of Racine & Kenosha, Wisconsin.

As part of his commitment to advancing the field of ophthalmology, Dr. Singh has developed innovative ways to ensure that his patients receive the medications he prescribes—by educating them about his rationale for medication selection and by building relationships with pharmacists, whom he views as an integral part of the cataract care team along with physicians’ assistants, nurses, technicians, and comanaging optometrists.

The roundtable participants were not surprised by these statistics, as many of them see a high volume of cataract patients. One pharmacist noted that he saw approximately 400 cataract surgery patients in 2017; another saw more than 600.

In addition to treating an increasing number of cataract patients each year, Dr. Singh sees younger cataract patients than he once did. “I’m not only treating 70- and 80-year-olds, but a lot of 50- and 60-year-olds,” he said. These younger patients, in Dr. Singh’s experience, have higher expectations than older patients. “New patients often hear from their friends how good their post-cataract vision is and how easy the recovery process was, and they want the same for themselves,” he said. “Managing my patients’ ocular comfort needs after cataract surgery is critical. Patients often judge the quality of their surgery—and my skill as a surgeon—by the amount of post-surgical pain they experience.”

Cataract surgery, however, causes physical trauma to the eye, which disrupts the blood-aqueous barrier and releases inflammatory mediators, including prostaglandins and leukotrienes. Post-cataract ocular inflammation may cause visual impairment and pain. Although advanced surgical techniques have made cataract surgery less invasive and traumatic, pharmaceutical control of postoperative pain and inflammation remains an important element in the treatment process.5

Options for managing postoperative inflammation and pain in cataract patients include corticosteroids and NSAIDs.4 Corticosteroids are traditionally used for short-term control of inflammation.4 NSAIDs, which are used before and after cataract surgery to help reduce pain and inflammation, are cyclooxygenase (COX) inhibitors that work by suppressing production of prostaglandins.4

Surgeons carefully select their post-treatment protocol, with an understanding that each ophthalmic NSAID has different molecular and formulation features.

A number of clinical factors drive ophthalmic NSAID prescription selection. The key molecular features of an ophthalmic NSAID include a high potency of COX inhibition (which contributes to control of inflammation and pain following cataract surgery) and good tolerability.4 The key formulation features include efficient penetration and rapid and sustained achievement of therapeutic drug levels (see box, “Clinical Factors That Drive Ophthalmic NSAID Prescription”). Ideally, the formulation should allow for early and prolonged control of ocular inflammation and pain and lessen the amount of time the drug remains on the ocular surface causing irritation.6

* Five pharmacists participated in the roundtable discussion. The pharmacists are paid consultants for Bausch + Lomb.
“When choosing an ophthalmic NSAID, special consideration must be given to the substantial number of patients with diabetes, a history of herpes virus, or chronic inflammatory diseases, such as rheumatoid arthritis and lupus,” Dr. Singh explained. “Many of these patients have corneal nerve insensitivities, which can interfere with tear film production and create a feedback loop that ultimately damages the ocular surface. This is one of the many reasons I prefer to limit exposure of a drug to the ocular surface, which impacts my choice of NSAID.”

Dr. Singh prefers to prescribe branded NSAID drops. In particular, for the treatment of post-surgical pain and inflammation in cataract patients, Dr. Singh prefers a branded NSAID formulation with convenient once-daily dosing, that does not require shaking, and has an established efficacy and safety profile. Dr. Singh prefers NSAIDs which are manufactured in an FDA-approved facility, rather than compounded formulations, for his cataract patients. Several of the roundtable participants noted that they work with surgeons who implant a high volume of premium intraocular lenses, and that those surgeons also tend to prefer branded drops.

“I try to minimize the dosing regimen and choose a drop that doesn’t require shaking,” Dr. Singh noted. “In my experience, many patients don’t shake their medication bottle even when instructed to do so. Failing to shake a bottle when necessary might negatively impact efficacy if the patient gets less than the intended amount of drug.”

**Substitutions of Ophthalmic NSAIDs**

While many factors involved with the cataract surgery procedure are carefully controlled—from preparation of the ocular surface to the choice of intraocular lens to the surgical instruments used—postoperative treatment is out of the surgeon’s hands once the patient walks out of the office with a prescription. “We cannot completely control which drug is filled at the pharmacy, how the patient uses it, or even if the patient uses it,” Dr. Singh said. That’s why it’s so important for ophthalmic surgeons to reach out to their local pharmacists and make them an integral part of the cataract care team, according to Dr. Singh.

Several of the roundtable participants were surprised to learn that different ophthalmic NSAIDs may not be interchangeable, and some ophthalmic NSAIDs have no therapeutically generic equivalent. Many of the participants were also unaware of specific formulation differences among the ophthalmic NSAID class, such as the need for shaking or differences in dosing frequency. Substitutions can create problems for patients because of differing instructions, according to Dr. Singh. “Let’s say an alternative formulation, which is dosed up to 4 times daily and requires shaking, is substituted for the prescribed drop, which has different dosing and shaking requirements. Patients may not realize that the instructions for the originally prescribed product, which came from the ophthalmologist’s office, do not apply to the substituted medication. As a result, in this example, these patients may use the medication only once daily and fail to shake the bottle, which can interfere with their post-surgical healing.” Nevertheless, substitutions are often made at the pharmacy for the

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**Clinical Factors that Drive Ophthalmic NSAID Prescription**

**Desired Features in Clinical Practice**
- Effective anti-inflammatory activity
- Rapid onset of action that produces sustained relief of inflammation and pain
- Ocular comfort and an acceptable safety profile
- Convenient dosing regimen

**Molecular Characteristics**
- High potency of COX inhibition
- Contributes to control of inflammation and pain after cataract surgery

**Formulation Characteristics**
- Efficient penetration into ocular tissues
- Rapid and sustained achievement of therapeutic drug levels
- Early and prolonged control of ocular inflammation and pain
- NSAID formulations have evolved over time to help increase potency and corneal penetration
- Various approaches are used to improve topical corneal delivery of ophthalmic NSAIDs
- Strategies to increase potency and corneal penetration:
  - Increasing lipophilicity
  - Adjusting pH
  - Using prodrug
  - Enhancing viscosity

**Dosing Considerations**
- Frequency of dosing of prescribed NSAID
- Need for shaking
- Instillation technique
- Number of additional pre- and post-cataract prescription agents

**Risk of Ocular Surface Irritation**
- The risk of ocular surface irritation should always be considered
- Dosing and formulation characteristics may affect the exposure of the drug to the ocular surface
prescribed ophthalmic NSAID. The roundtable participants identified a number of reasons for substitutions of selected NSAIDs. The two main reasons were lack of insurance coverage and cost. It is important to note that the participants in general mentioned a perceived lack of insurance coverage and cost concern within the class. It was for this reason they also acknowledged the importance of educating both the patient and pharmacist on the patient savings programs that may be available.

“We always try to dispense as written,” one roundtable participant said. “If the ophthalmologist prescribes a branded NSAID, we try to fill it. But the insurance company may say the drug isn’t covered.” Dr. Singh noted that patients are sometimes told a medication isn’t “covered” when in fact it isn’t “preferred.” A drug that isn’t “preferred” is still covered but may involve a higher copay. “Patients may not be familiar with these differences in terminology. That’s why eligible patients need to understand the savings programs that are offered and may be available to help address their cost concerns,” Dr. Singh said.

Sometimes an insurance provider’s Web portal will automatically recommend a different ophthalmic NSAID—either generic or another brand—if the prescribed drug isn’t covered or preferred. In those cases, a number of the participants stated that they try to call the prescribing ophthalmologist’s office for instructions. Dr. Singh noted that he and his colleagues prefer that the comanaging pharmacist call the practice instead of simply substituting the prescribed drug.

Socioeconomic class seems to play a role in who requests generics, the participants observed—but not always. For some patients, regardless of socioeconomics, the doctor’s prescription is “worth its weight in gold,” as one pharmacist put it. These patients are determined to obtain the exact drug prescribed, regardless of cost. According to the participants, patient education by their ophthalmologist regarding the choice of NSAID and the expected cost may impact whether patients obtain the ophthalmic NSAID prescribed by their surgeon. One pharmacist noted hearing on more than one occasion, “I know there may be a less expensive drop, but I want this one because it is what my doctor prescribed for me as a part of my treatment plan.”

In addition to lack of coverage and cost, the amount of time the pharmacist is given by the surgeon’s practice to process the prescription was identified as an indirect but very important reason for substitutions.

“We have developed a good relationship with several ophthalmic practices, and one of the reasons is that we try not to substitute initially,” one participant stated. “We try managed care first, then coupons, then prior authorizations—but we can only do that if we have enough time. Ideally, 2 to 3 weeks between the prescription and fulfillment is helpful in order to give us time to exhaust all possibilities before substitution.”

**BEST PRACTICES FOR NSAID FULFILLMENT**

All of the participants agreed that 2 to 3 weeks of lead-time helps them avoid substitutions and fulfill the ophthalmic NSAID prescribed by the surgeons.

Several of the participants stated that they appreciate when an ophthalmologist’s office sends the prescription for an ophthalmic NSAID to the pharmacy not only ahead of time but electronically. This allows the pharmacist to pull the patient’s insurance information and start working on the prescription before the patient even visits the store. For a number of the participating pharmacists, this is part of the customer service they want to provide.

“As both a pharmacist and a pharmacy owner, I feel I need to provide a high level of customer service,” one participant stated. “At my store, that means trying to preempt as many problems as possible by starting the prescription process early.”

Adequate lead-time also allows the pharmacist to ensure the prescribed product is on the shelf. “If I have 2 weeks of lead time, should I not have the product, I can order the product when I receive the prescription,” one participant stated.

In addition to identifying adequate lead-time as a best practice for ophthalmic NSAID fulfillment, the participants stated that building a relationship with the referring ophthalmologists in the area also helps to ensure that patients receive the medications they are prescribed.

“We have people coming from all over the city—from miles away—just to get their eye drop prescriptions filled. Why? Because we work closely with the ophthalmologists in the area. As a result, we understand not only how to process and use the coupons they provide patients, but we also know their post-surgical treatment protocol preferences and how best to communicate with the ophthalmologist’s office in order to take care of our customers,” one participant noted.

An in-person meeting between the ophthalmologist and the pharmacist can help cement a close working relationship. At least one of the participants stated that she has met with referring ophthalmologists to create a document, which is then signed by the doctor, listing the ophthalmologist’s first, second, and third choices for NSAIDs, steroids, and antibiotics. One of the benefits of this system is that there are fewer call-backs to the prescriber’s office. Dr. Singh added that he has a similar system in place with his local pharmacies.

Electronic communication—via text or email—is another way for ophthalmologists to build a relationship with comanaging pharmacists and communicate the reasons for their choice of NSAID. But, the participants added, it is important for the pharmacist to know the right person at the ophthalmologist’s office to contact with questions.

“We prefer to have a dedicated person, such as the surgical coordinator, to communicate with about prescriptions,” one participant stated.

Finally, all of the participants stressed the importance of education as a best practice for ophthalmic NSAID fulfillment: education of patients and of pharmacists. First, patients need to be educated about why the ophthalmologist has chosen a particular medication, and how much it will cost, all of the participants stated.
# Best Practices for Ophthalmic NSAID Fulfillment

- 2 weeks of lead-time from prescription to fulfillment
- Prescriptions sent electronically from the ophthalmologist’s office to the fulfilling pharmacy with “Dispense as Written” communicated on the script
- Close relationship between the ophthalmologist’s office and comanaging pharmacist, with in-person meetings if possible and identification of a main contact person at the ophthalmologist’s office for questions
- Clearly communicated surgeon prescription preferences for the postsurgical treatment protocol
- Patient education regarding rationale for selection of ophthalmic NSAID and expected price, whether it’s covered/preferred or not covered/preferred, and which savings programs are available so they may expect to pay no more than X with a coupon
- Pharmacist education regarding the clinical and formulation differences among ophthalmic NSAIDs, factors that may drive the ophthalmic surgeon’s treatment selection preference, and the full range of patient savings programs available to address any cost concerns

## Conclusion

Some of the key takeaways from the roundtable identified by the participating pharmacists included a greater appreciation for the role of ophthalmic NSAIDs in cataract surgery and a deeper understanding of the molecular and formulation-related reasons that ophthalmologists prescribe particular ophthalmic NSAIDs.

Moreover, the group’s attitude toward substitution of ophthalmic NSAIDs had changed by the end of the discussion, with the participants stating they became much less likely to recommend a substitution for a prescribed ophthalmic NSAID. Perhaps most importantly, the participants acknowledged the importance of developing a relationship with their referring ophthalmologists, a sentiment that was echoed by Dr. Singh.

“I look at my comanaging pharmacists as an integral part of the cataract care team,” Dr. Singh emphasized. “The more we can bridge the gap between the prescriber and the pharmacist through education and communication, the better we can all serve our patients. I really believe that.”

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**REFERENCES**