Abstract
OA is the most common form of arthritis. It results from the degradation of the joint through overuse or injury. It is estimated that 30.8 million adults in the United States suffer from OA. Treatment options of OA come in both non-pharmacologic and pharmacologic forms, with varying levels of efficacy for each option depending on the joint it is intended to be used for. In 2019, the American College of Rheumatology (ACR) updated the guidelines for the management of osteoarthritis of the knee, hip, and hand. The guidelines have been updated to state that acetaminophen is no longer the first line option for OA. In addition supplements like glucosamine and chondroitin are also no longer favored for use in the management of OA. This clinical capsule aims to describe the guidelines for OA as outlined by the ACR so that pharmacists in any type of setting, but especially in the community, can recommend appropriate therapy and counsel patients accordingly.

Introduction
Osteoarthritis (OA) is the most common cause of disability in adults, with an estimated prevalence of 30.8 million adults in the United States. OA results from the degradation of the joint through overuse or injury, and it is also the most common form of arthritis. The first signs and symptoms of OA are pain, inflammation, and loss of function in the joints, particularly in the knees, hands, and hips. OA is usually differentiated into two categories: primary osteoarthritis and secondary osteoarthritis. Primary osteoarthritis is the result of natural degradation of cartilage within the joint from friction over time; this type is prevalent among older adults. Secondary osteoarthritis is cartilage breakdown that is the result of injury or another disease. Although the two conditions are similar in presentation of symptoms, OA is different from rheumatoid arthritis (RA) because it is not an autoimmune disease, in which a patient’s immune system attacks their own cells, but instead is the result of mechanical breakdown of the joint. Treatment options for OA consist of both non-pharmacologic and pharmacologic therapies, with varying levels of efficacy for each option, depending on the joint it is intended treat. In 2019, the American College of Rheumatology (ACR) released an update for management of OA of the hand, knee, and hip. This was the first update for this guideline since 2012. Among other changes, the guideline now strongly recommends oral nonsteroidal anti-inflammatory drugs (NSAIDs), and it only conditionally recommends acetaminophen for management of hand, knee, and hip OA. This clinical capsule aims to summarize the revised ACR guideline for OA and provide an overview of medications used to manage this chronic condition.

Table 1. Pharmacologic and Non-Pharmacologic Approaches for Hand, Knee, and Hip Osteoarthritis

| Pharmacologic Approaches | Hand | Knee | Hip |
|--------------------------|------|------|-----|
| Oral NSAIDs              | S    | S    | S   |
| Topical NSAIDs           | C    | S    |     |
| Intra Articular Steroids | C    | S    | S   |
| Acetaminophen            | C    | C    | C   |
| Tramadol                 | C    | C    | C   |
| Duloxetine               | C    | C    | C   |
| Chondroitin              | C    |      |     |
| Topical Capsaicin        | C    |      |     |

| Non-Pharmacologic Approaches | Hand | Knee | Hip |
|-----------------------------|------|------|-----|
| Exercise                    | S    | S    | S   |
| Self-Efficacy and Self-Management Programs | S | S | S |
| Weight Loss                 | S    | S    |     |
| Tai Chi                     | S    | S    |     |
| Cane                        | S    | S    |     |
| First CMC Orthosis          | S    |      |     |
| TF Knee Brace               | S    |      |     |
| Heat, Therapeutic Cooling   | C    | C    | C   |
| Cognitive Behavioral Therapy| C   | C    | C   |
| Acupuncture                 | C    | C    | C   |
| Kinesiotaping               | C    | C    |     |
| Balance Training            | C    | C    |     |
| PF Knee Brace               | C    |      |     |
| Paraffin                    | C    |      |     |
| Yoga                        | C    |      |     |
| RFA                         | C    |      |     |

S: Strongly recommended; C: Conditionally recommended; CMC: carpometacarpal; NSAIDs: non-steroidal anti-inflammatory drugs; PF: patellofemoral; RFA: radiofrequency ablation; TF: tibiofemoral

Diagnosis Classification
The ACR guideline differentiates between the different types of OA by anatomic location, such as hand, hip, and knee.
Refer to Table 1 for the summary of pharmacologic and non-pharmacologic recommendations for management of OA.

Non-Pharmacologic Treatment Options

Non-pharmacologic options strongly recommended by the ACR for treatment of hand, knee, and hip OA include self-efficacy and self-management programs and exercise.(5) Walking, strengthening, neuromuscular training, and aquatic exercise are all favored equally by ACR for knee and hip OA.A4 Weight loss, Tai Chi, and cane use are strongly recommended for knee and hip OA, while first carpometacarpal orthosis is strongly recommended for hand OA and tibiofemoral knee brace is strongly recommended for knee OA.(4)

Pharmacologic Treatment Options

NSAIDs

Regardless of the anatomic location, NSAIDs are the mainstay of pharmacologic treatment options for patients with OA. Oral NSAIDs are recommended over other oral medication therapy options.(6) Studies have established the short-term efficacy of oral NSAIDs for osteoarthritis use, but long-term efficacy has not yet been determined.(6)

NSAIDs act as analgesics and anti-inflammatory medications via inhibition of cyclooxygenase (COX) enzymes, COX-1 and COX-2. Ranging from non-selective to selective, NSAID selectivity is based on the NSAID’s relative partialness for the COX-2 enzyme inhibition. For example, celecoxib is a COX-2 selective NSAID, while naproxen is a non-selective NSAID. The selectivity of NSAIDs may influence the risk of gastrointestinal (GI) and cardiovascular events. However, within an NSAID group with similar selectivity, there are still differences to consider, including clinical efficacy and patient tolerability.(6) For instance, although meloxicam and diclofenac are both partially selective NSAIDs with similar efficacy, meloxicam was found to have better GI tolerability than oral diclofenac.(6)

With the wide variety of NSAIDs available, it is important to note that certain NSAIDs may have more favorable side effect profiles than others. Non-selective NSAIDs, such as naproxen and ibuprofen, generally have a higher risk of GI bleeding compared to selective NSAIDs, such as celecoxib. However, celecoxib is associated with an increased risk of cardiovascular events, including myocardial infarction and stroke, compared to non-selective NSAIDs.(7) Given the side effects and risks associated with chronic NSAID use, NSAID doses should be as low as possible and given for the shortest duration necessary, while maintaining adequate analgesic and anti-inflammatory activity. NSAID selection should account for the patient’s past medical history to avoid worsening of cardiovascular or GI conditions.

Topical NSAIDs are strongly recommended for patients with knee OA and conditionally recommended for patients with hand OA due to lack of evidence and practical reasons.(8) It may be difficult to achieve therapeutic benefit with topical NSAIDs for hand OA depending on the frequency of hand washing.(14) Refer to Tables 2 and 3 for oral and topical NSAID treatment options.

Intra-articular injections

Intra-articular glucocorticoid injections are strongly recommended for patients with knee or hip OA.(9) Studies have demonstrated short-term efficacy in knee OA.(8,9) However, there is a lack of evidence for the use of intra-articular glucocorticoid injections in patients with hand OA. There is insufficient evidence to determine whether short-acting or long-acting options are superior when it comes to duration of action.(10) Compared to other injection options, intra-articular glucocorticoid injections are conditionally recommended for patients with knee, hip, or hand OA over other injections, such as hyaluronic acid.(4)

This conditional recommendation is due to the higher quality of evidence for efficacy of glucocorticoid injections than other agents and few direct comparisons performed.(4)

Intra-articular hyaluronic acid injections are conditionally recommended against usage in patients with knee and hand OA, and strongly recommended against usage in patients with hip OA.(4,10) In cases in which glucocorticoid injections or other interventions fail or patients have an inadequate response to non-pharmacologic interventions or topical or oral NSAIDs, intra-articular hyaluronic acid injections can be considered.(4) Due to the limited trials and lack of efficacy, intra-articular botulinum toxin injections are conditionally recommended against use in patients with knee or hip OA.(4)

Acetaminophen

Acetaminophen, although a commonly used medication, is only conditionally recommended for knee, hip, and hand OA.(4) It is contraindicated to use acetaminophen in patients who have intolerance for or contraindications to NSAIDs. However, other pharmacologic options may be preferred since studies indicate that acetaminophen does not provide clinically significant pain relief for its users.(16) With the risk of hepatotoxicity from acetaminophen, it is advised to monitor the patient for signs and symptoms of liver dysfunction, especially with chronic use at the maximal recommended daily dose.(11,12) The minimal benefit compounded with the risk of hepatotoxicity for patients with OA makes acetaminophen a conditionally recommended treatment option.(6) Refer to Table 4 for the non-NSAID OA treatment options.(4)

Duloxetine

Duloxetine is another conditionally recommended treatment option for OA, primarily in the knee. Although few studies have been conducted regarding duloxetine’s benefit for hand and/or hip OA, it is nonetheless conditionally recommended for these conditions as well.(16) Studies indicate that duloxetine has clinically significant benefits of lowering pain in knee OA patients.(13) Duloxetine has also demonstrated an improvement in quality of life in patients with knee OA.(13) Ongoing studies have not been conducted for a sufficient duration to determine whether duloxetine is superior to NSAIDs.(13) It is, however, associated with minor GI side effects, such as nausea, constipation, and decreased appetite.(13) As a result, the benefits of duloxetine make it a possible treatment option for knee OA when other pharmacologic treatment options cannot be used.(14,13,14)

Tramadol

Tramadol is a conditionally recommended option for knee, hip, or hand OA.(4) It is the only opioid that is recommended for OA, possibly due to having a lower risk of addiction and respiratory depression when compared to other opioids.(4,13) Although tramadol has demonstrated moderate benefit in managing OA pain, one study found that mortality rates were significantly higher among patients prescribed tramadol when compared to those prescribed NSAIDs.(15) The patients receiving tramadol, however, had more severe comorbid
Table 2. Selected Oral NSAIDs for Osteoarthritis

| Oral NSAID (Selected brand names) | Usual Adult Dosing | Maximum Daily Dose | Comments |
|-----------------------------------|--------------------|--------------------|----------|
|                                   |                    |                    |          |
| **Non-Selective**                 |                    |                    |          |
| Ibuprofen³⁹ (Advil®, Motrin®)     | BID = twice daily; OTC: 200-400 mg every 4-6 hours | Rx: 3200 mg OTC: 1200 mg | Contraindications: In the setting of coronary artery bypass graft surgery History of asthma, urticaria, or other allergic-type reaction to aspirin or NSAIDs |
| Naproxen base²⁰ (Naprosyn®)      | IR: 250-500 mg BID DR: 375 or 500 mg BID | 1500 mg | Boxed warnings: Serious CV (thrombotic events, stroke or MI) or GI events (bleeding, ulceration, GI perforation) |
| Naproxen sodium²¹ (Aleve®, Anaprox®, Naprelan® controlled release) | IR (Rx): 275-550 mg BID IR (OTC): 220 mg 2-3 times daily CR (Rx): 750-1000 mg daily | Rx: 1500 mg OTC: 440 mg in any 8- to 12-hour period or 660 mg/day | Warnings/precautions: Liver/kidney toxicity, caution in older patients (especially ≥75 years); start with low dose; monitor blood pressure - may increase blood pressure; may decrease response to some antihypertensive meds; may cause sodium and fluid retention; avoid in severe heart failure - may worsen heart failure |
|                                   |                    |                    | Common adverse reactions: Nausea, heartburn, dizziness, headache, edema, abdominal pain, constipation, somnolence |
| **Partially Selective**           |                    |                    |          |
| Diclofenac base²² (Zorvolex®) capsule | 35 mg TID | 105 mg | Contraindications: Same as above plus mild or severe renal insufficiency and at risk for volume depletion during perioperative period |
| Diclofenac sodium²² (Voltaren®) tablet | IR: 50 mg 2-3 times daily DR: 50 mg 2-3 times daily, or 75 mg twice daily ER: 100 mg daily | 150 mg | Boxed warnings: Same serious CV and GI events as above |
|                                   |                    |                    | Warnings/precautions: Same as above |
|                                   |                    |                    | Common adverse reactions: Abdominal pain, constipation, diarrhea, flatulence, heartburn, indigestion, nausea, vomiting, headache, dizziness, somnolence |
| Meloxicam²⁴,²⁶ (Mobic®, Vivlodex®) | Mobic®: 7.5-15 mg daily Vivlodex®: 5 mg daily | Mobic®: 15 mg Vivlodex®: 10 mg |          |
|                                   |                    |                    |          |
| **Selective COX-2 Inhibitors**    |                    |                    |          |
| Celecoxib²⁷ (Celebrex®)           | 100 mg BID or 200 mg daily | 200 mg | Contraindications: Same as non-selective NSAIDs above plus sulf allergy |
|                                   |                    |                    | Boxed warnings: Same serious CV and GI events as above with less upper GI bleeding risk |
|                                   |                    |                    | Warnings/precautions: Same as above |
|                                   |                    |                    | Common adverse reactions: Nausea, diarrhea, headache, and hypertension |

BID = twice daily; CV = cardiovascular; DR = delayed release; ER = extended release; GI = gastrointestinal; IR = immediate release; MI = myocardial infarction; NSAIDs = non-steroidal anti-inflammatory drugs; OA = osteoarthritis; OTC = over the counter; Rx = prescription; TID = three times daily⁷,¹⁹-²⁵
conditions compared to those receiving NSAIDs. \(^{15}\) As there is a concern for GI bleeding, cardiovascular events, and nephrotoxicity with NSAID use, tramadol may be a potential alternative option for patients at higher risk for these adverse events. \(^{15,16}\) It is important to note that high-quality evidence is not available regarding tramadol use for over 1 year. \(^{4}\)

### Topical capsaicin
Topical capsaicin is conditionally recommended for knee OA, but conditionally recommended against use in hand OA. \(^{4}\) No recommendation was made for hip OA due to a lack of quality evidence and a belief that the joint is simply too deep under the skin for topical capsaicin to provide significant benefit. \(^{4}\) While studies have shown that topical capsaicin has comparable benefits in OA when compared to topical NSAIDs, its use should remain limited to knee OA. \(^{4}\)

### Chondroitin sulfate
Although chondroitin sulfate is strongly recommended against use for both knee and hip OA, it is conditionally recommended to treat hand OA. \(^{4}\) Chondroitin sulfate use in OA does not result in adverse events in patients, but it also does not show significant benefit in hip or knee OA patients. \(^{17}\) The use of chondroitin sulfate was found to be safe in treating hand OA and resulted in benefit for the patients in both function and pain management. \(^{18}\) Many formulations of chondroitin also contain glucosamine. It is important to note that ACR strongly recommends against use of glucosamine in patients with OA of the knee, hip, or hand. \(^{4}\) Although some patients may perceive benefit from glucosamine, studies point to a lack of efficacy and more to a placebo effect when it comes to glucosamine use for management of OA. \(^{4}\)

### Conclusion
Osteoarthritis is caused by degradation of the joint through overuse or injury, and it is the most prevalent type of arthritis. Based on the updated 2019 ACR guideline for osteoarthritis management, NSAIDs have replaced acetaminophen as the first-line option for OA. The strength of recommendation for the pharmacologic and non-pharmacologic options varies based on the anatomic location of OA. Strong recommendations are made for exercise and weight loss in patients with knee or hip OA. \(^{4}\) Self-efficacy and self-management programs, as well as oral NSAIDs, are strongly recommended for hand, knee, and hip OA. \(^{4}\) As some of the most accessible health care providers, pharmacists are ideally positioned to educate patients about the non-pharmacologic and pharmacologic therapies used in the management of patients with OA.

About the Authors
Caroline Sun, PharmD, is a recent graduate of Chapman University School of Pharmacy, Class of 2021. She is a current PGY-1 resident at VA Northern California Health Care System and is active in CSHP and ASHP. Dr. Sun has no conflicts of interest to report.

Dennis Dang, PharmD, is a recent graduate of Chapman University School of Pharmacy, Class of 2021. He is a pharmacist graduate intern at Rite Aid. Dr. Dang has no conflicts of interest to report.

Jelena Lewis, PharmD, APh, BCACP, is an Assistant Professor of Pharmacy Practice at Chapman University School of Pharmacy and a faculty in residence at Providence Medical Foundation. She is active in APHA and currently serves as the APHA-APPM SIG Coordinator for the Medical Home/ACO SIG. Dr. Lewis has no conflicts of interest to report.

### References
1. Lawrence RC, Felson DT, Helmick CG, Arnold LM, Choi H, Deyo RA, Gabriel S, Hirsch R, Hochberg MC, Hunder GG, Jordan JM, Katz JN, Kremers HM, Wolfe F; National Arthritis Data Workgroup. Estimates of the prevalence of arthritis and other rheumatic conditions in the United States. Part II. Arthritis Rheum. 2008 Jan;58(1):26-35. doi: 10.1002/art.23176. PMID: 18163497; PMCID: PMC3266664.
2. Cisternas MG, Murphy L, Sacks JJ, Solomon DH, Pasta DJ, Helmick CG. Alternative Methods for Defining Osteoarthritis and the Impact on Estimating Prevalence in a US Population-Based Survey. Arthritis Care Res (Hoboken). 2016 May;68(5):574-80. doi: 10.1002/aac.22721. PMID: 26315529; PMCID: PMC4769961.
### Table 4. Non-NSAID Options for Osteoarthritis

| Non-NSAIDs (Selected brand names) | Usual Adult Dosing | Maximum Daily Dose | Comments |
|-----------------------------------|--------------------|--------------------|----------|
| **Acetaminophen**<sup>(28-30)</sup> (Tylenol<sup>®</sup>) | Regular strength: 325-650 mg 4-6 times daily Extra strength: 500-1000 mg TID | Regular strength: 3250 mg Extra strength: 3 grams (can increase to 4 grams if under medical supervision) | Greater CV and GI safety compared to NSAIDs  
Contraindications:  
Active and severe hepatic disease  
Severe hepatic impairment  
Common adverse effects:  
Pruritus, constipation, nausea, vomiting, headache, agitation |
| **Duloxetine**<sup>(30)</sup> (Cymbalta<sup>®</sup>) | Initial dosing: 30 mg daily  
Target dosing: 60 mg daily | 120 mg | Contraindications:  
Concomitant use with an MAOI or within 14 days of discontinuing an MAOI due to risk of serotonin syndrome  
**Boxed Warning:**  
Increased risk of suicidality (young adults), risk reduced in patients age 65 or older  
**Warnings/precautions:**  
Avoid use if eGFR <30; closed angle glaucoma, liver toxicity, serotonin syndrome, bleeding risk, serious skin reactions, seizures, urinary retention, activation of mania, hyponatremia, hyperglycemia in patients with diabetes  
**Common adverse effects:**  
Constipation, decrease in appetite, diarrhea, nausea, vomiting, xerostomia, weight loss, diaphoresis |
| **Tramadol**<sup>(21,32)</sup> (IR: Ultram<sup>®</sup>, ER: Ultram<sup>®</sup> ER) | IR: Initial dosing: 25 mg daily  
Titrate gradually to 50-100 mg 4-6 times daily  
ER: Initial dosing: 100 mg daily | IR: 400 mg (300 mg if age > 75)  
ER: 300 mg | Contraindications:  
Concomitant use with an MAOI or within 14 days of discontinuing an MAOI due to risk of serotonin syndrome  
**Boxed warnings:**  
Life-threatening respiratory depression, especially with CNS depressants such as benzodiazepines; concomitant use with cytochrome P450 isoenzyme medications should be carefully considered  
**Warnings/precautions:**  
CrCl <30mL/min do not use ER formulation, for IR formulation maximum dose is 200mg/day; increased risk for seizures especially in patients with seizure disorder or taking medications that lower seizure threshold; risk of serotonin syndrome if used with other serotonergic drugs; respiratory depression in patients with chronic lung disease  
**Common adverse effects:**  
Flushing, pruritus, constipation, nausea, vomiting, xerostomia, dizziness, headache, insomnia, somnolence |
| **Topical capsaicin**<sup>(29)</sup> | Cream, gel, liquid, lotion: apply to affected area 3-4 times daily  
Patch: apply 1 patch to affected area for up to 8 hours | 4 patches daily | Available in 0.025%, 0.075%, 0.1% cream; 0.025% gel, 0.15% liquid; 0.025% lotion; and 0.22%, 0.05% patch  
**Common adverse effects:**  
Application site redness and pain, rash, pruritus, nausea, nasopharyngitis |

CNS = central nervous system; CrCl = creatinine clearance; CV = cardiovascular; eGFR = estimated glomerular filtration rate; ER = extended release; GI = gastrointestinal; IR = immediate release; NSAIDs = non-steroidal anti-inflammatory drugs; MAOI = monoamine oxidase inhibitor; TID = three times daily<sup>(28-30)</sup>
You Received a Letter from the California State Board of Pharmacy?!  

**Stephen B. Mashney,**  
J.D., Esq. & Real Estate Broker  
Former Judge Pro Tem, OC Municipal Court  
Representation throughout California  

**Experienced legal services in the following areas:**  
- CA State Board of Pharmacy  
- DEA  
- FDA  
- Medi-Cal  
- CMS  
- PMB Audit & Recoupment  
- Buy-Sell Transactions & Contracts  
- Business Litigation  
- Personal Injury  
- Workers’ Compensation  

**Mashney Law Offices, APC**  
714.535.5090 - Call or Text  
714.535.7263 - Fax  
Stephen@MashneyLaw.com  
www.MashneyLaw.com  
Always FREE Consultation  

---  

28. Tylenol® (acetaminophen) oral tablets OTC product information. Fort Washington, PA: Johnson & Johnson Consumer, Inc.; May 2020. Available at: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=1622f694-4d63-4c56-8737-fae31f0ecfb7 (accessed December 16, 2020).  

29. Tylenol® (acetaminophen) extra-strength tablets. Fort Washington, PA: McNeil Consumer Healthcare; July 2020. Available at: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=59773893-09a8-47a2-943a-0e9ea9da4458a (accessed December 16, 2020).  

30. Cymbalta® ( duloxetine) prescribing information. Indianapolis, IN: Lilly USA, LLC; January 2017. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/021427s049lbl.pdf (accessed December 16, 2020).  

31. Ultram® (tramadol) prescribing information. Titusville, NJ: Janssen Pharmaceuticals, Inc.; December 2016. Available at: https://www.janssenmd.com/pdf/ultram/ultram_pi.pdf (accessed December 16, 2020).  

32. Ultram® SR (tramadol extended-release tablets) prescribing information. Titusville, NJ: Janssen Pharmaceuticals, Inc.; August 2017. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2016/021692s013s014lbl.pdf (accessed December 16, 2020).  

33. Therapeutic Research Center. Capsaicin monograph. Stockton, CA: Natural Medicines Comprehensive Database, May 2017. Available to subscribers at http://naturaldatabase.therapeuticresearch.com/nd/Search.aspx?cs=ND&pt=100&id=945&ds=&name=Capsaicin+%28CAPSICUM%29&searchid=62231972 (accessed December 16, 2020).
2021 Award Recipients

**Student Pharmacist of the Year**
Van Cathy Pham
Marshall B. Ketchum University
School of Pharmacy

**California Friend of Pharmacy**
Assemblymember
Vince Fong

**Stephen C. Feldman Compounding Award**
Rick Rhoads, PharmD

**New Practitioner of the Year**
Patrick K. Tabon, PharmD, APh, BCPS, BCGP, BCACP

**Excellence in Innovation Award**
Danielle Colayco, PharmD, MS

**Bowl of Hygeia Award**
Katherine E. Bass, PharmD

**Pharmacist of the Year**
Michael Pavlovich, PharmD
2021 Award Recipients

California Pharmacy Hall of Fame

Colleen R. Carter, PharmD, FCPHa
Steve W. Gray, PharmD, JD
Irwin L. Sitkoff, PharmD, RPh

Designated Fellows of CPhA
Richard Dang, PharmD, APh, BCACP
Tony Dao, PharmD, CPHIMS, CSSBB, LSSBB, PMC HI
Nathan Painter, PharmD, CDCES, FADCES
James Patrick Person
Sally Rafie, PharmD, BCPS, APh, NCMP, FCCP
Ken Thai, PharmD, APh

CPhA Chapters of Excellence
Central Valley Pharmacists Association
Orange County Pharmacists Association
Peninsula Pharmacists Association
Sacramento Valley Pharmacists Association
Pharmacists’ Professional Society of the San Fernando Valley

CPhA-ASP Chapters of Excellence
California Health Sciences University
California Northstate University
University of California, San Diego
University of California, San Francisco
University of Southern California
West Coast University

CPhA-ASP Innovative Chapter of the Year
West Coast University

To learn about CPhA Awards, visit CPhA.com/awards.
The Bowl of Hygeia award program was originally developed by the A. H. Robins Company to recognize pharmacists across the nation for outstanding service to their communities. Selected through their respective professional pharmacy associations, each of these dedicated individuals has made uniquely personal contributions to a strong, healthy community. We offer our congratulations and thanks for their high example. The American Pharmacists Association Foundation, the National Alliance of State Pharmacy Associations and the state pharmacy associations have assumed responsibility for continuing this prestigious recognition program. All former recipients are encouraged to maintain their linkage to the Bowl of Hygeia by emailing current contact information to awards@naspa.us. The Bowl of Hygeia is on display in the APhA History Hall located in Washington, DC.
Pioneering Health Care Education Since 1864

Since our founding as St. Louis College of Pharmacy, the needs of our students, alumni and community have always been at the core of our success.

Through diversified academic programs, including our flagship Doctor of Pharmacy program, an advanced research agenda, a transformed campus, and meaningful partnerships, we are creating unique opportunities to meet evolving student needs, while building on the foundation of who we are.

We are a community of future pharmacists, physicians, nurses, researchers, entrepreneurs, and more learning and growing together. We are leaders and innovators who support and challenge each other to solve society’s most pressing health care challenges.

We are University of Health Sciences and Pharmacy in St. Louis.

Discovery begins here.
THE PRESCRIPTION FOR

your success

Take your pharmacy career to the next level.

APPLY WITH US
jobs.rxrelief.com

EMAIL US
info@rxrelief.com

CALL US
800.797.3543

Our Mission: Consistently provide client experiences focused on what they value most.