

**Yilun Wang, Class 2024****Campus:** Baylor Scott and White Health, Temple TX**Research Area:** Systemic toxicity of local anesthetics in intra-articular injection**Mentor:** Michael P. Hofkamp, M.D (Anesthesiology)**ORCID:** [0000-0002-0441-4679](https://orcid.org/0000-0002-0441-4679)**Launch Talks:** December 2022

Yilun Wang, a medical student at Texas A&M School of Medicine, is conducting a clinical research project under the guidance of Dr. [Michael Hofkamp, MD](#), Director of Obstetric Anesthesia at Baylor Scott & White Health and Clinical Associate Professor of Anesthesiology at Texas A&M School of Medicine. Postoperative analgesia for total joint arthroplasty can be accomplished with intra-articular injection of local anesthetic. Small studies have examined the pharmacokinetics of intra-articular local anesthetic injections and demonstrated that subjects did not have toxic levels of local anesthetics. However, larger retrospective and prospective studies have not been conducted to determine the incidence of local anesthetic precipitating systemic toxicity for subjects who have intra-articular injections of local anesthetics. Furthermore, the incidence of less obvious manifestations of systemic toxicities such as altered mental status and muscle rigidity following intra-articular injection of local anesthesia has not been studied. In Spring 2021, an educational initiative and in-service presentation was started to raise awareness of local anesthetic-initiated systemic toxicity following intra-articular injection to perioperative nursing staff at Baylor Scott & White Medical Center - Temple. The primary aim of this study is to determine the incidence of systemic toxicity from local anesthetic in intra-articular injection during total knee and hip arthroplasty through retrospective data collection and statistical analysis of patient data.