

**Dr. Mina Wahba Morcos**

*"Randomized Controlled trial, Comparing the effectiveness of Sedation-Epidural anesthesia to Spinal anesthesia in Outpatient Hip or Knee Arthroplasty"*

**Rationale:** Total hip or knee arthroplasties (THA / TKA) are two of the most prevalent orthopedic procedures in Canada. Moreover, they have been very successful in improving the outcomes and quality of life of patients suffering from debilitating joint arthritis. Recently, the interest in same day surgery and rapid recovery program following THA and TKA has increased. One of the main elements is pain control as joint replacement has been associated with intense pain in the perioperative and postoperative period which can lead to increasing the length of stay (LOS), postoperative chronic pain, opioid consumption and cost. Currently, spinal anesthesia (SA) is recognized as the gold standard for these procedures. However, SA is associated with per and postoperative hypotension, urinary retention, and delayed motor function recovery. In our center, the orthopedic surgeons and anesthesiologists have developed a novel multimodal, opioid-free, anesthesia technique combining deep sedation with a "light" epidural anesthesia (EA) for the enhanced recovery after surgery program for THA and TKA and its showing very promising results. In the current literature, there is no consensus on whether one technique is superior than the other. Therefore, our **objective** is to compare the clinical outcomes of SA to SED-EA following THA/TKA surgery, in a randomized controlled trial.

**Primary outcome measures:** is to compare the overall complication rate within 72 hours after surgery, categorized according to the Clavien-Dindo classification between both techniques following THA and TKA surgery.

**Secondary outcomes objectives:** are to compare multiple perioperative and postoperative events between both groups including: time needed to perform the technique and to achieve adequate sensory block, blood loss, hemodynamic instability, time to motor and sensory function return and mobilization, postoperative pain and opioid consumption, hospital LOS and Complications .

**Study impact:** Early postoperative adverse events like uncontrolled pain, orthostatic hypotension, urinary retention, and prolonged motor block are linked to late patient mobilization, prolong hospitalization and failure to discharge in outpatient setting. The type of anesthesia used may have an important impact. Therefore, this study has the potential to change clinical practice and optimize patients outcomes following joint replacement surgery. This would allow the development of a new gold standard technique for NA in THA/TKA that can be further translated into other lower limb surgeries.