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## **New Study Recommends Stopping GLP-1 Agonists 14 Days Before Total Joint Arthroplasty to Reduce Anesthesia Risks**

**SAN DIEGO** (March 10, 2025)—Glucagon-like peptide-1 receptor agonists (GLP-1 agonists), such as semaglutide (e.g., Ozempic), have helped improve the management of type 2 diabetes and obesity. However, their use in the perioperative period surrounding major surgeries, like total joint arthroplasty (TJA), remains an area of growing interest and concern. A new study presented at the 2025 Annual Meeting of the [American Academy of Orthopaedic Surgeons](#) (AAOS) examined how the timing of a patient’s last dose of Ozempic prior to total knee arthroplasty (TKA) or total hip arthroplasty (THA) influences anesthesia-related complications such as delayed emergence, aspiration, aspiration pneumonitis and conversion to intubation. The study found that discontinuing semaglutide two weeks before surgery lowered a patient’s risk for these complications.

“GLP-1 agonists can delay gastric emptying and cause gastroparesis (paralysis of the stomach), leading to food remaining in the stomach and increasing anesthesia-related risks,” said Christopher T. Holland, MD, MS, lead author, total joint arthroplasty surgeon at Campbell Clinic Orthopaedics and a faculty instructor at the University of Tennessee Health Science Center in Memphis. “Until this past year, there was a lack of any literature reporting on the perioperative risk profile for patients who take GLP-1 agonists before surgery and the impact on surgical outcomes. With a growing number of patients using these medications for diabetes or to meet certain optimization goals before undergoing hip and knee reconstructive surgery, our aim was to establish evidence-based guidelines on when to discontinue these to enhance patient safety and surgical success.”

The study, “[Optimal Timing for Cessation of GLP-1 Agonist Before Elective Total Hip and Knee Arthroplasty](#),” obtained data from the TriNetX Research Network, a multi-institutional national aggregated database, to identify patients who underwent TKA or THA from January 1, 2018 to January 1, 2023. Patients who used Ozempic were categorized into cohorts based on when they discontinued Ozempic before surgery:

- 30 days prior to surgery - 482 patients
- 14 days prior to surgery - 591 patients
- 7 days prior to surgery - 680 patients
- 5 days prior to surgery - 758 patients
- 3 days prior to surgery - 777 patients
- 1 day prior to surgery - 706 patients
- Did not stop Ozempic prior to surgery - 170 patients

These patients were compared to a control group of 206,005 with no history of Ozempic use.

The cohorts were analyzed to determine the relationship between the time elapsed from their last Ozempic dose and complications from delayed emergence from anesthesia, aspiration event, aspiration pneumonitis and conversion to intubation. Highlights of the findings include:

- Stopping Ozempic three to five days prior to surgery was identified as an independent risk factor for delayed emergence from anesthesia. In contrast, the seven-day, 14-day, and 30-day cohorts had no independent risk factor for delayed emergence from anesthesia.
- Stopping Ozempic three to seven days prior to surgery was an independent risk factor for aspiration, while the 14-day and 30-day cohorts had no independent risk factor for this complication.
- Stopping Ozempic three to five days before surgery was identified as an independent risk factor for aspiration pneumonitis, while the seven-day, 14-day, and 30-day cohorts had no independent risk factor for aspiration pneumonitis.
- Stopping Ozempic three to seven days prior to surgery was an independent risk factor for conversion to intubation, while the 14-day and 30-day cohorts had no independent risk factor for this complication.
- Patients who did not stop Ozempic use at any time prior to surgery were at the highest risk for all complications studied.

“This research provides additional evidence to suggest that discontinuing GLP-1 agonists at least 14 days before total joint replacement surgery is optimal to reduce the risk of delayed emergence from anesthesia, aspiration events, aspiration pneumonitis and conversion to intubation,” said John R. Crockarell Jr., MD, MBA, FAAOS, total joint arthroplasty surgeon at Campbell Clinic Orthopaedics and a professor at the University of Tennessee Health Science Center in Memphis. “This study offers a practical guideline for surgeons managing patients on GLP-1 agonists in the perioperative period for lower extremity THA and TKA procedures. As orthopaedic surgeons, we must take a holistic approach to patient care, considering comorbidities and medications to optimize surgical outcomes. Understanding which medications can be safely continued or should be paused before surgery is key to providing comprehensive and effective care.”

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#### 2025 AAOS Annual Meeting Disclosure Statement

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##### **For more information, contact:**

Deanna Killackey

847-384-4035

630-815-5195

killackey@aaos.org