

Table 1. Characteristics and findings of the studies reviewed

Author	Year	Study type	Population (Number)	Surgery type	Results	Conclusion (summarized)
Tanner N Womble et al.[6]	2021	Retrospective cohort study	9,459 patients undergoing ankle fracture surgery	Open reduction and internal fixation (ORIF) of closed ankle fracture	Inpatient (GAI = 71 min vs. RAI = 79 min, p = 0.002) and outpatient (GAO = 66 min vs. RAI = 72 min, p < 0.001), the RA group's surgical times were greater. - Overall, LOS was reduced in the RA group (GA = 1.7 days vs. RA = 1.1 days, p < 0.001) - Greater rate of pain readmission in the RA group (RAO = 4 [0.3%] vs to GAO = 1 [0.0%], p = 0.007)	Increased surgical time, shorter hospital lengths of stay, and greater readmission rates for rebound pain are all linked to RA. The low rate of readmissions, however, suggests that RA is a secure and efficient treatment for ankle fractures
Ulrica Nilsson et al.[7]	2019	Mixed Method Observational study	401-day surgery patients	General, hand and orthopedic ambulatory surgeries	There were significant variations in the recovery quality between GA and RA from day 1 to day 13 (P < .05). - The GA group showed more noticeable psychological problems and weariness. The primary issue was discomfort from the surgery wound	In comparison to RA, GA produced a worse prognosis, including more weariness and psychological problems. Improving patient outcomes throughout recovery requires addressing unforeseen difficulties
Carlson Strother C R et al.[8]	2023	Retrospective cohort study	91 patients undergoing ulnar nerve decompression	Ulnar nerve decompression at cubital tunnel	There was no discernible variation in post-operative problems between the groups receiving general anesthesia (n = 8) and regional anesthesia (n = 7). - There was no discernible difference in the pre- and post-operative McGowan ratings between the anesthesia groups (p = 0.81)	There is no difference in the number of post-operative problems between patients under regional anesthesia and those under general anesthesia after in situ ulnar nerve decompression at the cubital tunnel. For patients, regional anesthesia is a dependable and safe alternative
Ryan Lee et al.[9]	2022	Retrospective cohort study	1,191 patients receiving RA matched to 9,250 patients receiving GA	Open reduction and internal fixation (ORIF) for distal radius fractures (DRFs)	The matched-cohort analysis revealed no statistically significant variations in the rates of any complications (all p ≥ 0.083). RA was not linked to a higher risk of any kind of complication, minor or severe complications, unplanned readmissions, unplanned reoperations, or death, according to multivariate regression models (all p > 0.05)	To surgically control DRFs, RA is a viable and safe substitute for GA. In individuals with severe cardiopulmonary risk factors, it could be preferable
Mark C. Kendall et al.[10]	2021	Retrospective cohort study	353,970 patients who underwent TKA procedures	Outpatient total knee arthroplasty (TKA)	Patients receiving GA did not have higher SAE rates at 72 hours after surgery (0.92% vs. 0.66%, p = 0.369) than patients receiving SA. - There were more minor adverse events in the GA group (2.09% vs. 0.51%, p < 0.001) than in the SA group. - Postoperative transfusion rate was higher in the GA group	For patients receiving outpatient TKA surgery, the type of anesthetic approach (GA or SA) had no discernible impact on readmissions, failure to rescue, or short-term major adverse events. Clinical advantages might be maximized by SA customised for anaesthetic management
Jennifer Héroux et al.[11]	2023	Prospective observational cohort study	76 patients undergoing wrist surgery	Orthopedic wrist surgery (distal radial fracture)	- According to the QuickDASH and PRWE questionnaires, there was no discernible difference in the functional recovery between the RA and GA groups 12 weeks after surgery (p > 0.05). - There were no differences in groups' range of motion, satisfaction, or postoperative discomfort. - The GA group had a stronger right-hand grip	When it comes to wrist surgery, regional anesthesia is not linked to a better functional recovery than general anesthesia. In order to evaluate the impact of anesthesia on recovery, further study is required to take into consideration the dominance of the operated limb
Amit Rastogi et al.[12]	2014	Randomized controlled trial	50 patients aged 15-50 scheduled for maxillofacial surgery	Maxillofacial surgery (mandibular fracture or TMJ ankylosis)	Compared to group II (general anesthesia), patients in group I (regional block with sedation) had less postoperative pain (VAS score) and were pain-free for a longer period of time. - Group I had fewer bouts of postoperative nausea and vomiting and needed smaller doses of rescue analgesia. - Group I's earlier PACU discharge	When compared to general anesthesia, regional block with sedation is a safe substitute for maxillofacial surgery that offers benefits for postoperative pain management and recovery
Jae-Hwi Nho et al.[13]	2021	Randomized controlled trial	72 patients undergoing volar plating for distal radius fracture (DRF)	Volar plating for distal radius fracture	Compared to patients under general anesthesia, those under brachial plexus block (BPB) anesthesia had reduced postoperative pain (VAS score). - Early postoperative pain scores were lower when BPB anesthesia was used. Superior pain control with BPB anesthesia in contrast to general anesthesia	Patients with distal radius fractures respond better to brachial plexus block (BPB) anesthesia than general anesthesia for the treatment of acute pain after volar plating
Rundgren et al.[14]	2019	Randomized controlled trial	88 patients undergoing day surgery for displaced distal radial fracture (DRF)	Day surgery for displaced distal radial fracture with volar-plate fixation	Between the general anesthesia (GA) and regional anesthesia (RA) groups, different patterns of postoperative pain and opioid intake were noted. - Both acute postoperative pain and painkiller usage were greater in the GA group. - After discharge, the RA group had increased discomfort. - After six months, there were no appreciable variations in the long-term results	In distal radial fracture surgery, anesthesia technique has a substantial impact on both early postoperative pain and opioid use; nevertheless, long-term results between general anesthesia and regional anesthesia groups are comparable
Volker Gebhardt et al.[15]	2018	Randomized controlled trial	50 patients aged 18-80 undergoing outpatient knee arthroscopy	Outpatient knee arthroscopy	Compared to general anesthesia, spinal anesthesia with 1% chlorprocaine resulted in a much earlier discharge and less expenses. Pain started much sooner in the group under general anesthesia. - Following general anesthesia, patients had significantly greater discomfort	A good alternative for an outpatient knee arthroscopy is spinal anesthesia with 1% chlorprocaine, which reduces patient pain and allows for an earlier release
Edward Yap et al.[16]	2022	Retrospective cohort study	11,523 patients undergoing ambulatory hip or knee arthroplasty	Ambulatory hip or knee arthroplasty	There were no significant problems that distinguished general anesthesia (GA) from neuraxial anesthesia (NA). The NA group had less pain, a decreased need for opioids, and a decrease in postoperative nausea and vomiting (PONV). - The NA group's median stay in the recovery room was shorter	Despite shorter recovery room stays, neuraxial anesthesia improves outcomes that predict readiness for release in ambulatory hip or knee arthroplasty, with less pain, less opioids, and a decreased incidence of PONV
Waseem Wahood et al.[17]	2019	Retrospective cohort study	60,222 patients undergoing lumbar decompression (LD)	Lumbar decompression (LD)	For LD, there were no significant variations in readmission, complications, or duration of stay between the general and non-general anesthesia groups. - For LD, non-general anesthesia produced results that were comparable to those of general anesthesia	In lumbar decompression surgery, non-general anesthesia performs comparably to general anesthesia, indicating that it is a safe substitute that yields similar results