

Anterior Total Hip Arthroplasty (THA)

Understanding Your Risks

This document outlines the risks, potential complications, and their estimated incidence associated with **Anterior total hip arthroplasty**. The information is based on current evidence from large clinical series, meta-analyses, and systematic reviews.

Common Risks and Their Estimated Incidence:

- **Deep infection requiring surgical treatment:** Occurs in approximately 0.4–1.2% of cases with the anterior approach. Some studies suggest a higher risk with the anterior approach compared to other approaches, with rates of 1.2% reported in matched cohort studies. Obesity (BMI ≥ 35) increases infection risk to approximately 2.35%.[\[1\]\[2\]\[3\]\[4\]](#)
- **Dislocation (hip instability requiring closed or open reduction):** Incidence ranges from 0.3–2.6% within 2 years after anterior THA. Most first-time dislocations (52-75%) occur within the first 3 months postoperatively. The anterior approach is generally associated with lower dislocation rates compared to the posterior approach.[\[5\]\[6\]\[7\]\[8\]\[9\]\[10\]](#)
- **Femoral nerve palsy (weakness of thigh muscle/quadriceps):** Occurs in approximately 0.2–0.64% of cases with the anterior approach, which is higher than with posterior approaches. The anterior approach is associated with a 4-14 fold higher rate of femoral nerve palsy compared to the posterior approach. Most cases show significant recovery, with 60-75% achieving complete motor recovery, though this may take 6 months to 2 years. Sensory symptoms may persist even when motor function recovers.[\[11\]\[12\]\[13\]](#)
- **Intraoperative periprosthetic fracture:** Occurs in approximately 0.49–0.67% of cases. The anterior approach may be associated with higher rates of femoral complications including fractures.[\[14\]\[3\]](#)
- **Superficial wound complications (delayed wound healing, superficial infection):** Reported in 0.84–1.7% of cases. The anterior approach is associated with a higher rate of delayed wound healing, particularly in patients with higher BMI (OR 3.03). Superficial wound complications are more common with the anterior approach across all BMI categories.[\[15\]\[4\]](#)
- **Revision surgery within one year:** Occurs in approximately 0.7–1.2% of cases, most commonly for infection, dislocation, or component issues. Some studies suggest the anterior approach may be associated with higher early revision rates, while others show lower long-term revision rates.[\[1\]\[14\]](#)
- **Femoral component loosening:** The anterior approach has been associated with a higher rate of revision for femoral loosening and periprosthetic fracture compared to other approaches.[\[14\]](#)
- **Sciatic/peroneal nerve palsy:** Occurs in approximately 0.05% of cases with the anterior approach, which is significantly lower than with posterior approaches (0.46%).[\[11\]](#)

- **Deep vein thrombosis (DVT):** Reported in approximately 0.45% of cases, though actual incidence may be higher as many cases are asymptomatic.[\[3\]](#)

Rare but Serious Risks:

- **Pulmonary embolism:** Occurs in a small percentage of patients and is strongly associated with mortality when it occurs.[\[16\]\[17\]](#)

- **Myocardial infarction (heart attack):** Rare complication but significantly increases risk of postoperative mortality.[\[16\]\[17\]](#)

- **Stroke (cerebrovascular accident):** Rare but serious complication.[\[16\]](#)

- **Acute renal failure:** Risk has been increasing over time (0.21% to 1.09% from 2005-2014) and is strongly associated with mortality (OR 36.5).[\[16\]\[17\]](#)

- **Pneumonia/lower respiratory tract infection:** Risk has increased over time (0.54% to 0.84%) and is strongly associated with mortality (OR 42.3).[\[16\]\[17\]](#)

- **Death:** Overall 30-day mortality after elective THA is approximately 0.1–0.35%, with 90-day mortality ranging from 0.15–0.60%. Mortality rates have decreased over time.[\[16\]\[17\]\[18\]\[19\]\[20\]\[21\]](#)

Other Considerations:

- **Systemic complications:** Medical complications (infection, cardiac events, renal failure, pulmonary embolism) account for 5.1% of complications after hip arthroplasty and are more common than surgical complications. These complications are more frequent than regional/surgical complications.[\[16\]\[18\]](#)

- **Risk factors:** Advanced age (particularly ≥ 70 years), higher ASA class (III-IV), elevated Charlson Comorbidity Index (particularly scores ≥ 3), obesity (BMI ≥ 35), preoperative anemia, cardiac disease, renal insufficiency, liver cirrhosis, previous organ transplant, lumbar spine disease (OR 10-21 for nerve palsy), longer operative time (>141 minutes), non-osteoarthritis diagnoses, female sex, and smoking increase the risk of complications.[\[22\]\[23\]\[16\]\[17\]\[19\]\[20\]\[21\]](#)

- **Recovery from nerve palsy:** Significant recovery from femoral nerve palsy typically does not commence until greater than 6 months postoperatively. While motor weakness resolves in approximately 60-75% of patients by 2-3 years, sensory symptoms may persist indefinitely in most patients.[\[11\]\[13\]](#)

- **Recurrent dislocation:** Among patients who experience at least one dislocation, 57% will have more than one dislocation event, and 11% will experience more than 5 dislocation events. Approximately 45.6% of patients experiencing dislocation will require revision surgery within 2 years.[\[6\]](#)

Patient Acknowledgment:

By signing below, the patient acknowledges understanding of the above risks, their estimated incidence, and the potential for both common and rare complications associated with Anterior total hip arthroplasty. All questions have been answered to the patient's satisfaction.

Patient Signature: _____ **Date:** _____

Patient Name: _____ **DOB:** _____

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