**Introduction**

Surgical site infections (SSI), the most common cause of hospital-acquired infection (HAI), are associated with increased cost and length of hospital stays (1). The use of prophylactic antibiotics may curb the incidence of these infections; however, the overuse of antibiotics may lead adverse events such as bacterial resistance (2). Some surgeries, such as arthroscopy, may have a lower risk of SSI (3). Current guidelines do not recommend antibiotic prophylaxis for knee arthroscopy, and clinical practices vary in this regard. We undertook a systematic review to determine whether antibiotic prophylaxis can reduce the risk of SSI following knee arthroscopy.

**Objective:** To compare the risk of SSI in patients receiving or not receiving prophylactic antibiotics before undergoing knee arthroscopy using meta-analysis.

**Methods**

- Literature search using PubMed, Cochrane Library, and Web of Science (Figure 1)
- Search terms: knee arthroscopy, prophylactic antibiotics, surgical site infection
- Included both observational studies and randomized controlled trials that compared SSI outcomes for patients receiving prophylactic antibiotics versus no antibiotics prior to knee arthroscopy
- Pooled data using a random effects model
- Used CDC SSI definition to assess for SSI in each study

**Results**

- Five retrospective studies including 47,548 patients met inclusion criteria (Figure 2)
- We identified no randomized trials in the literature
- Risk of SSI in prophylactic antibiotic group=0.38%; risk of SSI in no antibiotic group=0.37% (pooled OR 0.99, 95% CI 0.69-1.42) (Figure 3)

**Conclusion**

- Evidence suggests there is no difference in SSI incidence with and without antibiotic prophylaxis for knee arthroscopies
- Limitation: data limited to retrospective studies as there were no randomized controlled trials to date, need prospective studies to evaluate this finding
- Future directions: evaluate whether antibiotic prophylaxis prevents SSI in other joint arthroscopy procedures, such as shoulder arthroscopy

**References**


**Figure 1.** Summary of literature review

**Figure 2.** SSI in patients receiving prophylactic antibiotics versus no antibiotics in each retrospective review

**Figure 3.** Forest plot of meta analysis