Surgical Risk Preoperative Assessment System (SURPAS) universal risk calculators have shown excellent overall performance.

However, their accuracies must be tested for specific surgical interventions, such as total joint arthroplasty (TJA).

Data from the 2012 American College of Surgeons National Surgical Quality Improvement Program

Patients undergoing non-emergency TJA

<table>
<thead>
<tr>
<th>SUBSET</th>
<th>Mortality</th>
<th>Morbidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original SURPAS dataset</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>TJA subset</td>
<td>0.1%</td>
<td></td>
</tr>
</tbody>
</table>

30-day postoperative mortality rate

Accuracy of SURPAS calculators in predicting death and complications

Universal SURPAS risk models have lower accuracies for TJA procedures than they do for the wider range of procedures in which the SURPAS models were originally developed. SURPAS model estimates must be evaluated for individual surgical procedures or within restricted groups of related procedures.

Given the substantial difference between observed and SURPAS-expected outcomes for TJA, universal perioperative risk calculators may not be accurate or reliable enough for clinical or administrative use.

Surgeons and healthcare administrators should use risk calculators developed and validated for specific procedures that are most relevant to each decision.

How accurate are the SURPAS models’ predictions for patients undergoing TJA?