CARDE-B: A Simple Scoring System to Predict Mortality After Revision Total Joint Arthroplasty
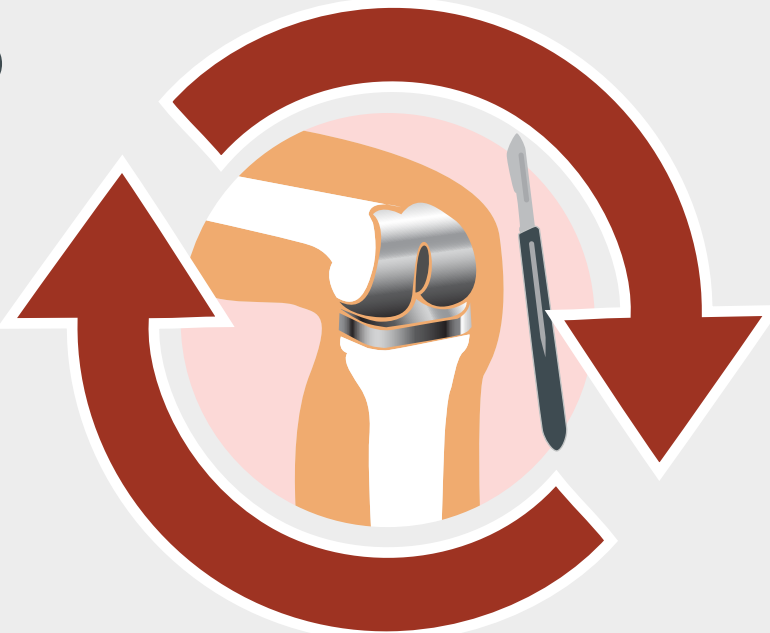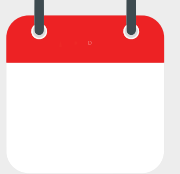
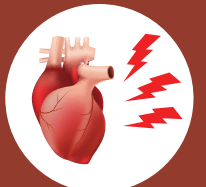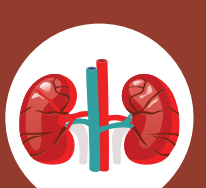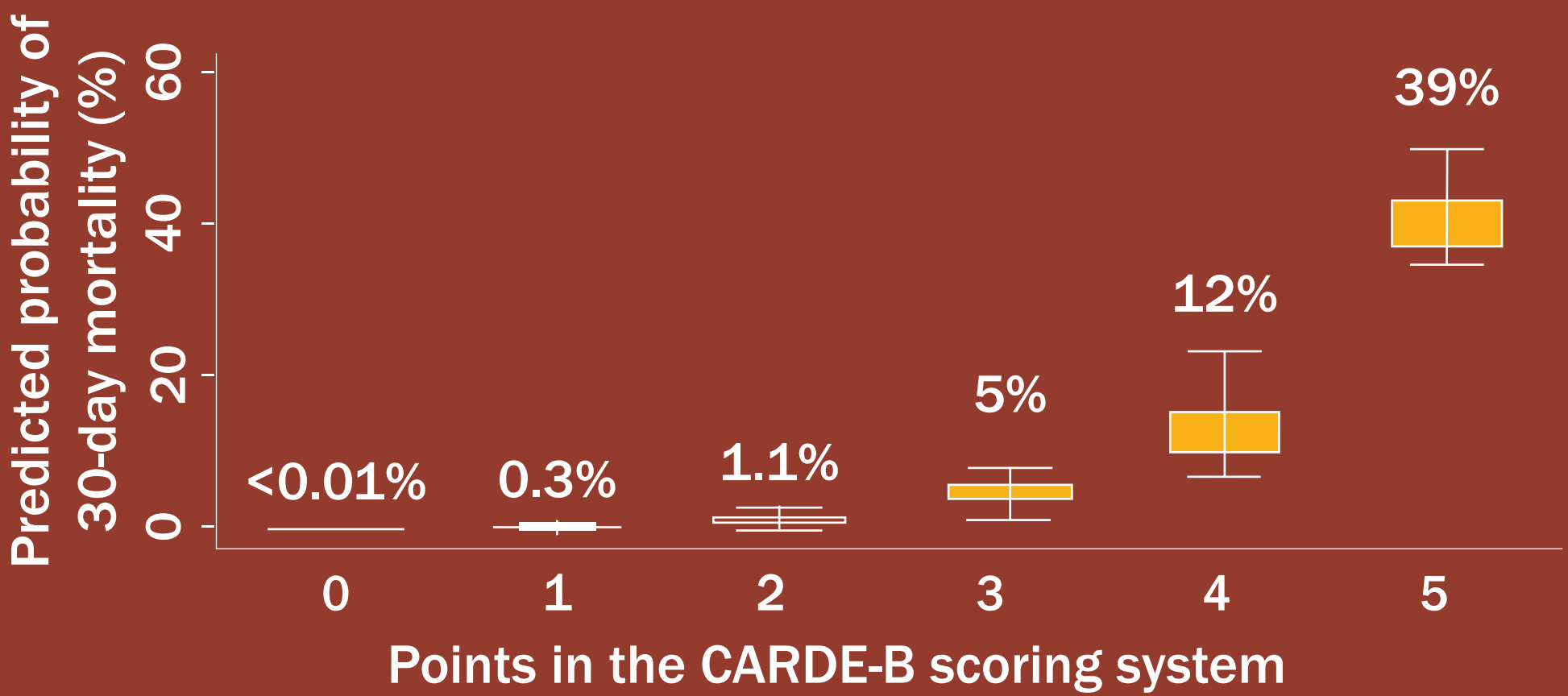A tool is needed to predict the risk of perioperative mortality after revision total joint arthroplasty (TJA)

Researchers developed a one-point scoring system, based on data from 13,118 patients who underwent revision TJA, called CARDE-B

Predicted probability of death within 30 days of a revision TJA

Compared with other scoring systems
- American Society of Anesthesiologists physical status classification (ASA)
- 5-factor modified frailty index (mFI-5)

Validated in
- The National Surgical Quality Improvement Program (NSQIP) database
- Nationwide Inpatient Sample (NIS)

The CARDE-B Criteria

Congestive heart failure **+1**

Albumin or malnutrition (<3.5 mg/dL) **+1**

Renal failure on dialysis **+1**

Dependence for daily living **+1**

Elderly patients (>65 years of age) **+1**

Body mass index (<25 kg/m^2) **+1**

Predicted probability of 30-day mortality after revision TJA increased stepwise with increasing CARDE-B score

Predicted probability of 30-day mortality (%) vs Points in the CARDE-B scoring system:
- 0: <0.01%
- 1: 0.3%
- 2: 1.1%
- 3: 5%
- 4: 12%
- 5: 39%

The predictive accuracy of the CARDE-B scoring system was greater than that of the ASA and mFI-5 scoring systems

The CARDE-B scoring system showed goodness of fit in the NSQIP database and NIS

The CARDE-B score:
- Predicts the risk of death within 30 days of a revision TJA
- Offers surgeons and patients a validated tool for risk stratification