



Healthgrades 2023 Methodology Updates

Every year, Healthgrades reviews its methodology to ensure that it is up-to-date both clinically and statistically. As the practice of medicine changes, we incorporate changes into our methodology. Reviewers include Healthgrades physicians, nurses, and statisticians, as well as our external physician clinical advisory board. Once our clinicians approve all proposed changes, we analyze all changes for statistical relevance in the model.

Below is a high-level list of changes made to the [Mortality and Complications Outcomes 2023 Methodology](#).

Changes across all cohorts

- **Admit type risk adjustment** -- Previously, we only used Admit Source for risk adjustment. Admit type allows us to better distinguish elective procedures. Admit type is used by CMS reimbursement, and Healthgrades has made the decision this year to risk-adjust on all admit types available from the CMS claims files.
- **Extracorporeal Membrane Oxygenation (ECMO)** has been added as an exclusion in all cohorts.

Cardiac Care

- **Separating Open vs. Endovascular AAA Procedures** – Added new risk adjustment groupings to better delineate and appropriately risk adjust open vs. endovascular procedures. We further group by procedure type such as replacement vs. resection, to give a more clinically aligned breakdown for the risks of negative outcome in each procedure type.
- **Pacemaker lead extraction exclusion** – Lead extraction procedures have been excluded from the Pacemaker Procedures cohort, due to recent analysis indicating the risk and patient type for these procedures is just too different from the other procedures in this cohort.

Critical Care

- **Diabetic Emergencies** – Additional refinement and buildout of more robust complications definitions in the Diabetic Emergencies cohort. This follows last year's change in the cohort, from being tracked as a mortality to being tracked as complications.

Neurosciences

- **Stroke Care** – NIHSS (National Institute of Health Stroke Scale) Score groupings have been added as risk adjustment variables.

Orthopedics

- **Hip Fracture DRG Refinement** – Added additional and explicit DRG dependency to the osteoarthritis inclusion rules in the Hip Fracture cohort to ensure that only those patients with a hip fracture were evaluated, and that other diagnoses (e.g., distal femur fractures) are now excluded.