

Air Embolism

NQF#: N/A

Developer: Centers for Medicare and Medicaid Services (CMS)

Data Source: CMS

Description: Rate of air embolisms. CMS reports the DRA HAC measures as observed rates (per 1,000 discharges). CMS divides the count of observed HAC occurrences identified at a hospital (numerator) by the number of eligible discharges at that hospital (denominator) and multiplies by 1,000. HAC occurrences are included in the DRA HAC numerator only if they are associated with the POA Indicator codes "N" or "U." DRA HAC measures do not exclude any HACs based on how they occurred. More information is available at <https://www.cms.gov/files/document/frequently-asked-questions-publicly-reported-deficit-reduction-act-dra-hospital-acquired-condition.pdf>.

Rationale: An air embolism occurs when an air or gas bubble enters the vascular system. These events can occur in a wide range of clinical scenarios involving line placement, trauma, and several types of surgical procedures including cardiac, vascular, and neurosurgery. Air embolisms are rarely encountered, but are a complication that can cause serious harm, including death. With appropriate precautions and techniques, they are preventable.

Citations for Rationale:

- McCarthy CJ, Behraves S, Naidu SG, Oklu R. Air Embolism: Practical Tips for Prevention and Treatment. Journal of Clinical Medicine. 2016;5(11):93..
- Gordy S, Rowell S. Vascular air embolism. International Journal of Critical Illness and Injury Science. 2013;3(1):73-76.
- McCarthy CJ, Behraves S, Naidu SG, Oklu R. Air Embolism: Diagnosis, Clinical Management and Outcomes. Diagnostics. 2017;7(1):5.

Impact:

- Rare event

Opportunity:

- Based on the coefficient of variation for the measure opportunity for improvement exists

Evidence:

- Evidence ratings vary from Class C to Class R
 - Class C: Non-randomized trial with concurrent or historical controls, case-control study, study of sensitivity and specificity of a diagnostic test, population-based descriptive study
 - Class D: cross-sectional study, case series, case report
 - Class R: consensus statement, consensus report, narrative review

Citations for Evidence:

- McCarthy C, Behraves S, Naidu S, Oklu R. Air embolism: Practical tips for prevention and treatment. Journal of Clinical Medicine, 2016; 5(11):93.
- McCarthy C, Behraves S, Naidu S, Oklu R. Air embolism: Diagnosis, clinical management and outcomes. Diagnostics, 2017; 7:5