



Effective Health Care

Normalization and Monitoring of Asymptomatic Hypocalcemia with IV Calcium Supplementation Nomination Summary Document

Results of Topic Selection Process & Next Steps

- The topic, *Normalization and Monitoring of Asymptomatic Hypocalcemia with IV Calcium Supplementation*, is an area of uncertainty of concern to clinicians and other stakeholders. However the topic is not feasible for a full systematic review due to the limited data available for a review at this time.

Topic Description

Nominator(s): Two health care professional associations in partnership

Nomination Summary: The nominator asserts that hypocalcemia is common in hospitalized patients and associated with poor outcomes in critically ill patients as measured by arterial blood pressure, survival, and length of stay. He also indicates that there is uncertainty about the benefit of normalizing calcium. He believes that intravenous (IV) calcium replacement and blood calcium monitoring to normalize blood calcium levels in hospitalized asymptomatic hypocalcemic patients is a common practice that is invasive and resource-intensive with questionable clinical efficacy, benefits, and safety. He lists several background articles that support his assertions. He would like to have a systematic review on this topic in order to assist the two organizations he represents in developing evidence-based guidelines for IV calcium replacement in hospitalized patients.

Staff-Generated PICO

Population(s): Hospitalized adults with acute asymptomatic hypocalcemia not following thyroidectomy or parathyroidectomy

Intervention(s): Intravenous calcium with the intent of correcting asymptomatic hypocalcemia

Comparator(s): Monitor for the development of symptoms of hypocalcemia but not correcting asymptomatic hypocalcemia, no monitoring or management

Outcome(s): Morbidity, mortality, intensive care unit (ICU) and hospital length of stay, complications of calcium administration

Setting: Hospital

Key Questions from Nominator: For adult hospitalized patients with asymptomatic hypocalcemia measured by total albumin-corrected or ionized calcium, does intravenous IV calcium supplementation guided by ongoing monitoring of blood calcium levels lead to improved clinical outcomes or reduced length of stay?

Considerations

- The topic meets EHC Program selection criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/>.)
- Hypocalcemia affects 85% of patients in intensive care units, yet there is little guidance available on how to treat asymptomatic hypocalcemia in this population. Since hypocalcemia may be associated with increased mortality but parenteral calcium supplementation in critical illness may be deleterious, it would be beneficial to clinicians to have more guidance to inform their clinical decision making.
- There is very limited research on patient outcomes following intravenous IV calcium supplementation guided by ongoing monitoring of blood calcium levels in patients with acute asymptomatic hypocalcemia not following thyroidectomy or parathyroidectomy. Therefore, this topic is not feasible for a full systematic review due to the limited data available for a review at this time.