



Effective Health Care

Diagnosis and Management of Gout

Nomination Summary Document

Results of Topic Selection Process & Next Steps

- The topic, *Diagnosis and Management of Gout*, will go forward for refinement as a systematic review. The scope of this topic, including populations, interventions, comparators, and outcomes, will be further developed in the refinement phase.
- When key questions have been drafted, they will be posted on the AHRQ Web site and open for public comment. To sign up for notification when this and other Effective Health Care (EHC) Program topics are posted for public comment, please go to <http://effectivehealthcare.ahrq.gov/index.cfm/join-the-email-list1/>.

Topic Description

Nominator(s): Organization

Nomination Summary: The nomination focused on both the diagnosis of gout and the use of dietary and pharmacological interventions to manage gout. More specifically, the nominator is interested in the diagnostic accuracy of clinical criteria alone versus standard diagnostic techniques, the predictive value of baseline uric acid levels for determining the effectiveness of treatment on intermediate and final clinical outcomes and the use of dietary and pharmacological interventions for the treatment of gout.

Staff-Generated PICO

Population(s): Adults with or at risk of having gout

Intervention(s): Clinical criteria for diagnosis of acute gouty arthropathy and synovial fluid analysis; dietary interventions

Comparator(s): Standard diagnosis techniques; other dietary interventions, pharmacotherapeutics or placebos.

Outcome(s): Health outcomes (e.g. mortality, morbidity, adverse events), functional status, patient satisfaction, and intermediate endpoints (e.g. uric acid levels, crystal dissociation).

Key Questions from Nominator:

1. What is the accuracy of clinical criteria only in the diagnosis of acute gouty arthropathy instead of synovial fluid analysis?
2. In adults with a history of gout, do results of baseline uric acid levels and blood and urine chemistries predict the effectiveness of diet and/or pharmacological treatment on final health outcomes and intermediate (joint/ gout/systemic) events and outcomes, and reduce treatment adverse effects?

- a. Do effectiveness and adverse effects of treatment differ according to patient baseline uric acid levels and blood and urine biochemical measures?
 - b. Does treatment tailored to the results of baseline uric acid levels and blood and urine chemistries improve final health outcomes and intermediate (Joint/ gout/systemic) events and outcomes, and reduce adverse effects compared with empiric treatment?
3. In adults with a history of gout, what is the effectiveness and comparative effectiveness of different dietary therapies on final health outcomes and intermediate (gout/joint/ systemic) outcomes?
 - a. Does effectiveness of diet therapy differ according to patient baseline demographic and co-morbid characteristics?
 - b. Does effectiveness of diet therapy differ according to patient baseline diet and fluid intake?
 - c. Does effectiveness of diet therapy differ according to uric acid level and quantitative urine uric acid levels?
4. In adults with a history of gout, what is the evidence that dietary therapies to reduce risk of recurrent gout episodes are associated with adverse effects?
 - a. Does the risk of adverse effects differ according to patient baseline demographic and co-morbid characteristics?
 - b. Does the risk of adverse effects differ according to patient baseline diet and fluid intake?
 - c. Does the risk of adverse effects differ according to joint vs. systemic involvement in gout?
5. In adults with a history of gout what is the effectiveness and comparative effectiveness of different pharmacological therapies on final health outcomes and intermediate (joint/ gout/systemic) outcomes?
 - a. Does effectiveness differ according to patient baseline demographic and co-morbid characteristics?
 - b. Does effectiveness differ according to patient baseline diet and fluid intake?
 - c. Does effectiveness differ according to characteristics of (joint/gout/systemic)?
6. In adults with a history of gout, what is the evidence that pharmacological therapies to reduce risk of recurrent gout episodes are associated with adverse effects?
 - a. Does the risk of adverse effects differ according to patient demographic and co-morbid characteristics?
 - b. Does the risk of adverse effects differ according to patient baseline diet and fluid intake?
 - c. Does the risk of adverse effects differ according to characteristics of (joint/ gout/systemic)
7. In adults with a history of gout being treated to prevent gout recurrence, do results of follow-up blood and urine biochemistry measures predict final health outcomes

and intermediate (joint/ gout/systemic) outcomes?

- a. Does prediction of final health outcomes and intermediate gout outcomes (joint/ gout/systemic) differ according to the frequency or duration of follow-up biochemistry measurements?

Considerations

- The topic meets all EHC Program selection criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/>.)
- Gout is the most common inflammatory arthritis in adults and affects 4% of the US population. It occurs when uric acid builds up in blood and causes joint inflammation. The incidence of gout has risen in recent years, and some have hypothesized that this increase coincides with a significant dietary shift for many Americans.
- Most patients with gout are seen in primary care settings, with less than 10% being referred to rheumatologists. However, some studies indicate that diagnosis in primary care is often based primarily on clinical signs and symptoms, and usually without the use of synovial fluid analysis for the presence of monosodium urate crystals, which is the reference test for the diagnosis of gout. The diagnostic accuracy of clinical signs and symptoms is uncertain.
- Gout is treated by both nonpharmacologic interventions (e.g., dietary therapies) and pharmacotherapeutics (e.g., non-steroidal anti-inflammatory drugs [NSAIDs], colchicine, allopurinol, febuxostat, probenecid, and pegloticase).
- A scan of the literature did not identify any comprehensive systematic reviews addressing the scope of the topic. However, there appears to be sufficient evidence on the diagnosis and management of gout as well as interest from relevant stakeholders to warrant an AHRQ evidence review at this time.