Effective Health Care
Hypothyroidism
Nomination Summary Document

Results of Topic Selection Process & Next Steps

- Hypothyroidism was found to be addressed by multiple systematic reviews and clinical practice guidelines. Given that the existing reviews and guidelines cover this nomination, no further activity will be undertaken on this topic.

  Systematic Reviews

  - Chao M, Jiawei X, Xia H, Guoming W, Yangang W, Xufu W, and Shuyao Z. Thyroxine alone or thyroxine plus triiodothyronine replacement therapy for hypothyroidism. Nuclear Medicine Communications 2009;30(8):586-93.

  - Joffe RT, Brimacombe M, Levitt AJ, et al. Treatment of clinical hypothyroidism with thyroxine and triiodothyronine: a literature review and metaanalysis. Psychosomatics 2007 Sep;48(5):379-84.

  - Grozinsky GS, Fraser A, Nahshoni E, et al. Thyroxine-triiodothyronine combination therapy versus thyroxine monotherapy for clinical hyhpothyroidism: meta-analysis of randomized controlled trials. Journal of Clinical Endocrinology and Metabolism 2006;91(7):2592-99.

  Guidelines

  - AACE/AME Task Force on Thyroid Nodules. American Association of Clinical Endocrinologists and Associazione Medici Endocrinologi medical guidelines for clinical practice for the diagnosis and management of thyroid nodules. Endocr Pract 2006 Jan-Feb;12(1):63-102. http://guidelines.gov/content.aspx?id=8947&search=hypothyroidis

  - American Thyroid Association (ATA) Guidelines Taskforce on Thyroid Nodules, Cooper DS, Doherty GM, Haugen BR, Kloos RT, Lee SL, Mandel SJ, Mazzaferri EL, McIver B, Pacini F, Schlumberger M, Sherman SI, Steward DL, Tuttle RM. Revised American Thyroid Association management guidelines for patients with thyroid nodules and differentiated thyroid cancer. Thyroid 2009 Nov;19(11):1167-214. http://guidelines.gov/content.aspx?id=15606&search=hypothyroidism

Topic Description

Nominator: Individual

Nomination Summary: The nominator is interested in understanding the most effective medications for stabilizing thyroid hormone levels, which include thyroid stimulating hormone (TSH), thyroxine (T4), and triiodothyronine (T3) for patients with Graves' disease who have had their thyroids surgically removed and now suffer from hypothyroidism.

Staff-Generated PICO
Population(s): Patients with post-surgical hypothyroidism; patients with Graves' disease
Intervention(s): Hormone replacement therapy, specifically Synthroid, Cytomel, or these agents in combination
Comparator(s): Same as above
Outcome(s): TSH, T4, and T3 levels within normal range; clinically euthyroid.

Key Questions from Nominator:

1. For people with post-surgical (total thyroidectomy) hypothyroidism, what is the comparative effectiveness of medications used for TSH (T4) control when there are problems keeping the TSH level within range?

Considerations

- The topic meets EHC Program appropriateness and importance criteria. (For more information, see http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/.)

- The topic was found to be addressed by multiple systematic reviews and clinical practice guidelines that consistently report or recommend that monotherapy with T4 hormone is the standard of care for treatment of hypothyroidism, and combination therapy does not appear to provide additional benefit. Therefore, there does not appear to be controversy in the literature about the preferred treatment for primary hypothyroidism.