RXADVANCE
2 Park Central Drive
Southborough, MA 01772

Clinical Policy Title:	thyrotropin alfa
Policy Number:	RxA.530
Drug(s) Applied:	Thyrogen®
Original Policy Date:	03/06/2020
Last Review Date:	12/07/2020
Line of Business Policy Applies to:	All lines of business

Background

Thyrotropin alfa (Thyrogen®) is a recombinant human thyroid stimulating hormone (TSH).
It is indicated for:

- Diagnostic: Use as an adjunctive diagnostic tool for serum thyroglobulin (Tg) testing with or without radioiodine imaging in the follow-up of patients with well-differentiated thyroid cancer who have previously undergone thyroidectomy.
- Ablation: Use as an adjunctive treatment for radioiodine ablation of thyroid tissue remnants in patients who have undergone a near-total or total thyroidectomy for well-differentiated thyroid cancer and who do not have evidence of distant metastatic thyroid cancer.

Limitation(s) of use:

- Diagnostic:
  - Thyrogen-stimulated Tg levels are generally lower than, and do not correlate with Tg levels after thyroid hormone withdrawal.
  - Even when Thyrogen-stimulated Tg testing is performed in combination with radioiodine imaging, there remains a risk of missing a diagnosis of thyroid cancer or of underestimating the extent of disease.
  - Anti-Tg antibodies may confound the Tg assay and render Tg levels uninterpretable. Therefore, in such cases, even with a negative or low-stage Thyrogen radioiodine scan, consideration should be given to further evaluating patients.
- Ablation: The effect of Thyrogen® on long-term thyroid cancer outcomes has not been determined. Due to the relatively small clinical experience with Thyrogen® in remnant ablation, it is not possible to conclude whether long-term thyroid cancer outcomes would be equivalent after use of Thyrogen® or use of thyroid hormone withholding for TSH elevation prior to remnant ablation.

Dosing Information

Drug Name	Indication	Dosing Regimen	Maximum Dose
thyrotropin alfa (Thyrogen®)	Adjunctive diagnostic tool for serum thyroglobulin testing in well differentiated thyroid cancer	0.9 mg IM injection to the buttock followed by a second 0.9 mg IM injection to the buttock 24 hours later	See regimen
	Adjunct to treatment for ablation in well differentiated thyroid cancer		

Dosage Forms

- For injection: Lyophilized powder in a 0.9 mg single-dose vial.

Clinical Policy

Provider must submit documentation (such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.

I. Initial Approval Criteria

A. Thyroid Cancer (must meet all):

1. Diagnosis of well-differentiated thyroid cancer;
2. Age ≥ 18 years;
3. Thyrogen® will be used for one of the following (a or b):
   a. Adjunctive treatment for radioiodine ablation of thyroid tissue remnants and both of the following are met (i and ii):
      i. Member has undergone a near-total or total thyroidectomy;
      ii. There is no evidence of distant metastatic thyroid cancer;
   b. Adjunctive diagnostic tool for serum Tg testing in members who have previously undergone thyroidectomy;
4. Dose does not exceed an initial 0.9 mg IM injection followed by a second 0.9 mg IM injection 24 hours later.

Approval Duration
Commercial: 6 months (2 injections)
Medicaid: 6 months (2 injections)

II. Continued Therapy Approval

A. Thyroid Cancer (must meet all):

1. Member is currently receiving medication that has been authorized by RxAdvance or the member has met initial approval criteria listed in this policy;
2. Member is responding positively to therapy;
3. Thyrogen® will be used as an adjunctive diagnostic tool for serum Tg testing;
4. If request is for a dose increase, new dose does not exceed an initial 0.9 mg IM injection followed by a second 0.9 mg IM injection 24 hours later.

Approval Duration
Commercial: 6 months (2 injections)
Medicaid: 6 months (2 injections)

III. Appendices

APPENDIX A: Abbreviation/Acronym Key
FDA: Food and Drug Administration
TSH: thyroid stimulating hormone
IM: intramuscular
Tg: thyroglobulin

APPENDIX B: Therapeutic Alternatives

- Not applicable

APPENDIX C: Contraindications/Boxed Warnings

- Contraindication(s):
  - If Thyrogen® is administered with radioiodine, the contraindications to radioiodine also apply to this combination regimen.

- Boxed Warning(s):
  - None.

APPENDIX D: General Information

- Thyrogen® (thyrotropin alfa for injection), is a protein designed to be identical to natural human thyroid-stimulating hormone (TSH).
- Thyrogen® is a prescription medication given in two injections by a healthcare provider prior to radioactive iodine ablation or diagnostic testing in patients with well-differentiated thyroid cancer. Injections of Thyrogen raise the levels of TSH in your body, which is important when preparing for RAI ablation or in monitoring the recurrence of thyroid cancer.
- Thyrogen® is not approved for patients who have thyroid cancer that has spread to other parts of the body (distant metastases).
- The most common side effects reported in clinical trials were nausea and headache.

References

1. Thyrogen® Prescribing Information. Cambridge, MA: Genzyme Corporation; March 2020. Available at: https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=b52dfa36-f90b-4e19-9b5e-26db9d04df2b&type=display#S4 . Accessed September 9, 2020.
2. Haugen BR, Pacini F, Reiners C, et al. A Comparison of Recombinant Human Thyrotropin and Thyroid Hormone Withdrawal for the Detection of Thyroid Remnant or Cancer. J Clin Endocrinol Metab. 1999;84:3877-3885. Accessed September 9, 2020.
3. Pacini F, Landenson PW, Schlumberger M, et al. Radioiodine ablation of thyroid remnants after preparation with recombinant human thyrotropin in differentiated thyroid carcinoma: results of an international, randomized, controlled study. J Clin Endocrinol Metab. 2006;91:926-932. Accessed September 9, 2020.

Review/Revision History	Review/Revision Date	P&T Approval Date
Policy established.	01/2020	03/06/2020
Policy was reviewed: 1. Clinical policy title was updated. 2. Lines of business policy applies to was updated to all lines of business. 3. Continued therapy approval criteria II.A.1 was rephrased to "Member is currently receiving medication that has been authorized by RxAdvance…".	9/10/2020	12/07/2020

4. Appendices updated. 5. References were reviewed and updated.		