

Date: August 18, 2011

To: Edmonton Zone and North Zone
Physicians, Nursing staff and Laboratory Directors and Managers

From: AHS Laboratory Services - Edmonton Zone
University of Alberta Hospital (UAH) – Biochemistry Laboratory

Re: Anti-GAD65, Anti-insulin Antibodies and Reverse T3 Testing

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Key Messages:

Anti-GAD65

Effective **September 15, 2011**, anti-Glutamic Acid Decarboxylase [anti-GAD65] antibody testing will be performed in the Biochemistry Laboratory at University of Alberta Hospital.

- Anti-GAD65 testing may be useful when it is difficult to distinguish Type 1 from Type 2 diabetes or when the probability of progression from Type 2 to Type 1 is high. Measurement of anti-GAD65 to screen for risk of developing diabetes is not warranted. Therefore testing should be considered only on patients diagnosed with diabetes and having a C-peptide < 0.8 nmol/L ⁽¹⁾.
- Anti-GAD65 antibodies may also be ordered by neurologists to aid in the diagnosis of Stiffman Syndrome and other neurological disorders.
 1. Diabetes Care 33, 1970-1975, 2010.

Anti-insulin antibodies

Although anti-insulin antibodies may be observed in patients with autoimmune (Type 1) diabetes, measuring levels of these antibodies has limited clinical utility. Their presence, however, will interfere with the insulin assay producing falsely elevated results. If this is suspected, anti-insulin antibody status can be determined and an estimate of the free insulin concentration calculated.

- A fasting sample is required and antibody status will be determined only if the insulin level is greater than twice the upper limit of normal. Testing under other circumstances or repeat testing will require approval from the Clinical/Medical Biochemist.

Reverse T3 Discontinued

Reverse T3 levels are no longer available because the reagent has been discontinued.

- Thyroid function in patients prescribed amiodarone should be monitored using TSH, FT4 and FT3 levels as recommended in the AMA Clinical Practice Guideline: Investigation and Management of Primary Thyroid Disease, 2008.
- A patient with normal TSH, FT4 and FT3 observed after 3 months of treatment should be followed with TSH measurement every 6 – 12 months.
- An elevated TSH suggests the development of amiodarone induced hypothyroidism.
- Decreased TSH levels are observed in both amiodarone induced hyperthyroidism and clinically euthyroid patients. Comparison of FT4 and FT3 to previous values and clinical assessment are required to determine the status of these patients.

Specimen Collection and Handling:

Testing and Collection Information for both Anti-GAD65 and Anti-insulin antibodies may be found in the AHS Edmonton Zone Test Directory at: <http://www.albertahealthservices.ca/3217.asp>

For additional questions contact:

Dr. Connie Prosser at 780-407-8492

This bulletin has been reviewed and approved by:

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