

Autoimmune Neutropenia



Autoimmune neutropenia (AIN) is a disorder that results when an individual forms antibodies directed against their own neutrophils. It can present in primary or secondary form. Primary AIN is not associated with other immunological or hematological abnormalities. In cases of secondary AIN, the neutropenia is the result of a more extensive autoimmune disorder or a malignant lymphoproliferative disease.

INDICATIONS

Primary AIN is most frequently seen in children between the ages of 1 and 36 months of age, although adult cases have been reported. In most cases, children have severe neutropenia with Absolute Neutrophil Counts (ANC) less than 1500 cells/ μ L. Monocytosis is also frequently seen in primary AIN. Bone marrow biopsies of infected patients demonstrate a normal to hypercellular marrow with a decreased number of mature granulocytes. AIN in infancy is manifested by recurrent fever and infections such as bacterial skin infections, otitis media, and respiratory or urinary tract infections. Spontaneous recovery almost always occurs by age 5.

Secondary AIN is associated with other autoimmune disorders such as rheumatoid arthritis, Felty's syndrome or systemic lupus erythematosus (SLE). Secondary AIN is most commonly seen in individuals between 40 to 80 years of age. Severe or life-threatening infections are not common in patients with secondary autoimmune neutropenia.

TESTING WORK-UP

Neutrophil Antibody Screen:

The patient's serum is screened for neutrophil specific antibodies against a panel of cells typed for characteristic neutrophil antigens by the Granulocyte Agglutination (GA) and Granulocyte Immunofluorescence (GIF) assays.

Optional Testing:

- **Neutrophil genotyping/phenotyping** can be performed to establish the presence of the antithetical gene/antigen if a specific neutrophil antibody has been identified.

SPECIMEN REQUIREMENTS

1. Neutrophil Antibody Testing:

- 2 to 3 mL of serum or plasma.
- Collect blood in either a red top or EDTA tube. Separate serum or plasma from the red cells as soon as possible and store at 2° to 8°C up to 48 hours after collection. If testing is delayed, store frozen and ship on dry ice.

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SHIPPING ADDRESS

North Central Blood Services
Neutrophil Serology Laboratory
100 Robert Street South
St. Paul, Minnesota 55107-1489

**For further information
please call the Neutrophil
Serology Laboratory
at 651-291-6797 or the
laboratory supervisor
at 651-291-6758.**

CLIA License Number:
24D0651229

2. Neutrophil Phenotyping:

- 14 to 28 mL whole blood collected in EDTA.
- **DO NOT** separate plasma from the red cells. Ship overnight at room temperature in a well insulated container. Contact the laboratory before collecting specimens as testing must begin within 24 hours of venipuncture.

3. Neutrophil Genotyping:

- 5 to 7 mL whole blood collected in citrate or EDTA.
- Ship overnight at room temperature in a well insulated container.

TEST RESULTS

Final results will be reported within 10 days. Results can be faxed and/or mailed.

PRICE

Refer to current fee schedule.

CPT CODE

TEST	CPT CODE
Neutrophil Antibody Screen	86021 x 2
Neutrophil Antigen Phenotyping.	86021 x 3
Neutrophil Genotyping (HNA-1a, -1b, -1c)	83890, 83898 x 3
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