

# THE SCOPE

## Awanui Labs Northern - Pathology news

Editorial: Dr Lesley Overend

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### Introduction to the Scope September 2025



#### Welcome to the September 2025 Edition of the Scope

This month's issue features an article from Dr Richard Steele, one of our immunopathologists, on the role of serology testing in autoimmune disease. Dr Steele explains when and why to order an

anti-nuclear antibody (ANA) test, highlights areas where testing may be overused, and identifies population groups where it remains underutilised. We're also pleased to share that the recent issues with ANA, ENA and dsDNA testing have now been resolved. With the installation of new analysers, we will be able to repatriate the remaining Northern region immunology and infectious serology work previously performed in our Wellington laboratory.

### Understanding Autoimmune Disease and Serology

Autoimmune diseases can be common conditions like thyroiditis and type 1 diabetes or rarer disorders such as vasculitis. They predominantly affect young to middle-aged adults, with a higher prevalence in females.

Key features include:

- Systemic (e.g., SLE, RA) or organ-specific (e.g. adrenal, brain, skin)
- Tissue injury is driven by cellular or humoral autoimmune mechanisms

Autoantibodies are mainly used for diagnosis and in this setting should **ONLY** be ordered where objective clinical features of the disease in question are present.

Autoantibodies are frequently detectable many years before clinically apparent disease but the prognostic value for most is poorly understood as not all people with these autoantibodies will progress to having disease.

Autoantibodies should **NOT** be ordered in asymptomatic patients or as screening tests as this can lead to potential harm to the patient as well as significant costs to the health system. There are rare exceptions such as screening for coeliac disease in type I diabetics.

Specific autoantibodies are used for monitoring in some conditions such as coeliac disease (e.g. anti tissue transglutaminase antibodies), SLE (anti-dsDNA antibodies) and ANCA positive vasculitis (MPO/PR3).

The pathogenesis of autoimmune disease is not fully understood but in general is due to a genetic predisposition with variants mainly affecting components of the immune system. Environmental triggers and exposures are also involved which has led to a dramatic increase in the prevalence of autoimmune disease over the last 50-70 years.

## Understanding Autoimmune Disease and Serology..cont

Tissue injury can be due to damage through cell-mediated or antibody-mediated mechanisms. Antibodies can cause direct tissue damage through the formation of immune complexes (for example glomerulonephritis), direct damage or physiological dysfunction, (for example bullous skin disease skin or myasthenia gravis). At other times the autoantibodies are not pathogenic but can still be a useful diagnostic marker of disease, for example, liver autoantibodies.

### Antinuclear Antibody (ANA) Testing: When and Why?

ANA testing is sensitive (~99%) but not specific for systemic lupus erythematosus (SLE) and is useful for the diagnosis of a number of other systemic autoimmune conditions (Sjogren's Syndrome, Systemic Sclerosis, Mixed Connective Tissue Disease, Inflammatory myopathies, Juvenile Idiopathic Arthritis, and Autoimmune Liver Disease).

**An ANA should ONLY be ordered when there are clear and objective clinical features suggesting that one of the above systemic autoimmune diseases are present:**

- Unexplained systemic inflammation (infection and malignancy ruled out)
- Mouth ulcers, hair loss, characteristic rashes of SLE/dermatomyositis (e.g. photosensitive, malar, SCLE, Gottron's papules)
- Inflammatory arthritis (confirmed objectively)
- Sicca symptoms (dry eyes/mouth confirmed objectively)

- Serositis (pleuritis, pericarditis)
- Glomerular kidney disease (confirmed haematuria /proteinuria)
- Myositis (raised CK)
- Interstitial lung disease (documented on radiology)
- Skin thickening (documented on clinical examination)
- Raynaud's phenomenon especially with nailfold capillary loop changes
- Leukopenia, lymphopenia, or haemolytic anaemia not otherwise explained

### Do NOT test for ANA in patients with:

Fatigue, osteoarthritis, gout, low back pain, non-specific rashes or in patients with established systemic autoimmune diseases to monitor disease activity.

ANA and ENA testing only needs to be done once in any patient and should not be repeated unless there are new clinical features as listed above to suggest a systemic autoimmune condition.

### ANA Interpretation

An ANA test result will state whether an ANA is detected, the pattern, and the titre. Higher titres are more likely to be clinically significant. ANA patterns associated with a consistent common antigen are more likely to be seen in autoimmune disease (e.g. a homogeneous ANA with a positive dsDNA autoantibody). The four common ANA patterns reported, and their clinical associations are listed below:

ANA pattern	Common Antigens	Clinical Associations
Homogeneous	dsDNA, Histones, Nucleosomes	SLE, Drug-induced lupus, Autoimmune hepatitis
Speckled	SSA/Ro, SSB/La, Sm, RNP, Scl-70	Sjogren's Syndrome, SLE, Mixed Connective Tissue Disease, Systemic sclerosis
Nucleolar	Various nucleolar antigens	Systemic sclerosis, especially diffuse cutaneous
Centromere	CENP-B	Limited systemic sclerosis (CREST syndrome)

For more detailed ANA pattern interpretation, visit [www.anapatterns.org](http://www.anapatterns.org).

### Insights into testing the right person and testing equity

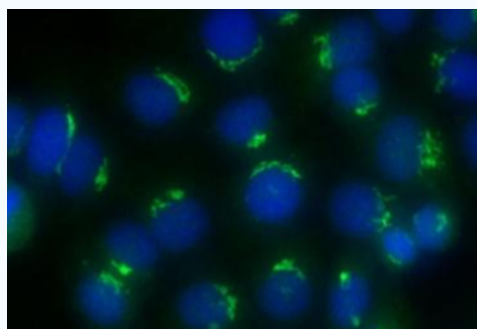
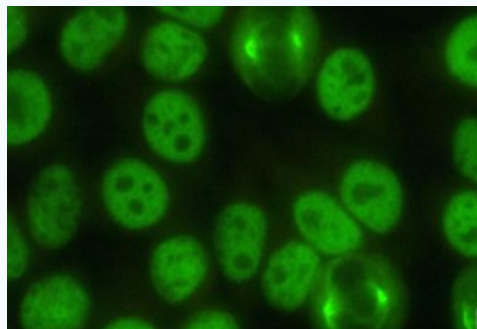
Local Testing Insights and Equity data generated through both Awanui Labs and Pathlab has revealed the following:

1. **We need to test more women:** Although ANA testing is performed mostly in women (Female: Male ratio 2:1), it is still not high enough when the female: male ratio for SLE is much higher at 9-12:1
2. **We need to test in younger patients:** We are testing too many older people; 40% of the testing occurs in those over 60 who account for less than 15% of the cases of SLE.
3. **We need to test more Māori and Pasifika:** Māori and Pacific peoples have approximately half the ANA screening rates compared to NZ Europeans despite a higher incidence of SLE.

This underscores opportunities to optimize test requesting to improve equity and target higher-risk groups better.

### Summary and Recommendations

- ANA and autoimmune serology should be requested based on genuine clinical suspicion, not when there are nonspecific symptoms or as general screening.
- Order and interpret autoantibody results carefully in the clinical context to avoid false positives/negatives.
- Recognize ethnic and demographic factors in disease risk and test utilization.
- Consult specialists for complex cases or unclear results.




For questions about testing or interpretation, please contact the immunology laboratory. We are here to support you in delivering accurate and clinically useful diagnostic information for your patients.

Thank you for your commitment to high-quality patient care.



Dr Richard Steele  
Immunopathology and Chief  
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Northland Key Contacts			(09) 438 4243
Results		Press '1'	24 hours/7 days per week
Test Bookings	Book online through <a href="http://www.awanuilabs.co.nz">www.awanuilabs.co.nz</a>	Press '2'	
Home Visits	Email <a href="mailto:nth.homevisits@awanuilabs.co.nz">nth.homevisits@awanuilabs.co.nz</a> If the home visit cannot be booked for the date requested Home Visits staff will contact the referrer to arrange an alternative date. Phone enquiries to (09)438 4243	Press '3'	Mon-Fri: 8:00am to 3:00pm
Stores	<a href="mailto:nth.stores@awanuilabs.co.nz">nth.stores@awanuilabs.co.nz</a>	Press '4'	Mon-Fri 8:00am to 5:00pm
Other Enquiries	<a href="mailto:nth.admin@awanuilabs.co.nz">nth.admin@awanuilabs.co.nz</a>	Press '5' or Hold the line	Mon-Fri 8:00am to 6:00pm
E-orders Helpline	Email: <a href="mailto:helpdesk@eorder.co.nz">helpdesk@eorder.co.nz</a>	0508 37 37 83	
Auckland Key Contacts			(09) 574 7399
Results		Press '1'	24 hours/7 days per week
Courier		Press '2'	24 hours/7 days per week
Home Visits	Email to <a href="mailto:auk.home.visits@awanuilabs.co.nz">auk.home.visits@awanuilabs.co.nz</a> (preferred) If the home visit cannot be booked for the date requested Home Visits staff will contact the referrer to arrange an alternative date.	Press '3'	Mon-Fri: 8:00am to 6:00pm Sat: 8:00am to 12:00pm
Special test bookings		Press '4'	Mon-Fri 8:00am to 6:00pm
Other Enquiries		Hold the line	Mon-Fri 7:00am to 11pm Sat-Sun 8:00am to 7:00pm
Add on tests	Requests for add on tests can be emailed to: <a href="mailto:call.centre@awanuilabs.co.nz">call.centre@awanuilabs.co.nz</a>		Note: some add on tests may require pathologists' approval.
Consumables orders	To enquire about consumables orders	Press '2'	Mon-Fri 07:00am to 3:30pm
Dedicated line for practitioners to access all results (24/7)		(09) 574 7398	
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