When to check ANA

Connective tissue diseases (CTD) cover a wide range of autoimmune diseases. They are often associated with particular autoantibodies. The 'classic' CTDs include systemic lupus erythematosus (SLE), rheumatoid arthritis (RA), systemic sclerosis (or scleroderma), polymyositis and dermatomyositis.
Patients may present with a variety of symptoms and these can vary greatly between individuals.

History

- Photosensitive skin rash
- Poly arthralgia or polyarthritis
- Muscle pain and weakness
- Mouth ulcers
- Dry eyes and/or dry mouth
- Raynaud's phenomenon
- Hair loss
- Pleurisy
- Dyspnoea
- Recurrent miscarriages

Examination

- Skin rash
- Synovitis
- Mouth ulcers
- Sclerodactyly / scleroderma
- Scarring alopecia
- Raynaud's phenomenon
- Digital ulceration
- Telangiectasia
- Pleural or pericardial effusion

Helpful Investigations

- FBC with anaemia, leucopaenia or thrombocytopaenia
- Raised ESR
- Strongly positive ANA and positive anti-dsDNA

ANA testing has a high degree of sensitivity (>95%) for SLE and other connective tissue diseases; however the utility of the test is limited by very low specificity (<60%) which severely limits its value in the investigation of patients who have only non-specific symptoms. Consequently, the ANA test is not a good screening test for SLE or other autoimmune diseases.
The clinical value of an ANA test is tremendously enhanced by testing when there is a reasonable pre-test probability (ie clinical suspicion) of a connective tissue disease.
One reason that the specificity of the ANA test is low is that ANA can also be found in non-rheumatic inflammatory diseases such as autoimmune hepatitis, primary biliary cirrhosis, Crohn's disease, chronic infectious diseases (TB, SBE, infectious mononucleosis) and lymphoproliferative disorders.
ANA can also be induced by many drugs.
Drugs associated with ANA production and lupus-like disease

Procainamide	D-penicillamine	Terbinafine	Hydralazine

Isoniazid	Minocycline	Quinidine	Methyldopa
Phenytoin	Chlorpromazine	Anti-TNF agents	

Clinically significant titres of ANA are usually >1:160
ANA 1:40 occur in 20 – 30% of normal healthy individuals
ANA 1:80 occur in 10 – 15% of normal healthy individuals
ANA 1:160 occur in 5% of normal healthy individuals
ANA 1:320 occur in 3% of normal healthy individuals
In the elderly, over 70 years, up to 70% have a positive ANA of 1:40

Anti-dsDNA antibody testing is performed as a reflex by the laboratory where the ANA screening test is found to be significantly positive. Anti-dsDNA antibodies are principally associated with lupus.

Primary care management

Manage symptoms pending clinic review

Who to refer

- Patients with several CTD symptoms or signs (typically 4 or more) who test ANA positive **AND** anti-dsDNA positive.

'False positive' ANA results up to 1:80/1:160 (and sometimes beyond) are relatively non-specific and, in themselves, not highly indicative of a connective tissue disorder.
Anti-dsDNA levels up to 75 IU/ml are considered as negative and not suggestive of lupus, particularly where relevant clinical indicators are absent. A second test (crithidia), which also detects dsDNA autoantibodies, is routinely undertaken as a safety net by the laboratory on samples where the quantitative anti-dsDNA result is >30 IU/ml to identify borderline positive samples.

Who not to refer

- Patients with arthralgia who have a positive ANA and negative anti-dsDNA, with no other symptoms and signs.

- Patients with Raynaud's who have a positive ANA and negative anti-dsDNA, with no other symptoms or signs.

- Patients with generalized pain who have a positive ANA and negative anti-dsDNA, with no other symptoms or signs.