Nail fold capillaroscopy is a non-invasive method of examining the nail-bed of patient’s with raynaud’s phenomenon (RP) to assess for any abnormalities. The first use of a microscope to visualise the capillary loops was when JC Klaus described his findings around 400 years ago. In the 20th Century the technique has found favour again with physicians describing specific patterns that relate to connective tissue disease. Three to twenty percent of the population have RP and 10% of these patients will have connective tissue disease. These abnormalities include findings of capillary dilatation, bleeding and reduced density. Nail fold capillaroscopy now forms part of the European and American criteria for systemic sclerosis and not only does it allow earlier diagnosis and treatment for those with scleroderma but it can also facilitate discharge of those patients with RP and normal capillaroscopy findings.

Within the Belfast Trust members of the rheumatology service have been able to learn the technique under the tutelage of Professor Cutolo in Italy, an expert in the technique. After a pilot scheme in 2018 a nurse led service has now been established within the Trust. The technique involves a microscope linked with a camera; cedar oil is placed on the nail bed to create a smooth surface. The 2nd-5th fingers are visualised on both hands. Normal capillaries are homogeneously sized, hairpin shaped and regularly arranged, running parallel to skin surface. There is usually between 6 and 14 capillaries per millimetre with 9 being average.

Up to 60% of the normal population have isolated morphological anomalies but key features that are pathological include giant capillaries (>100 micrometres), extensive areas with loss of capillary density and recurrent haemorrhages and neoangiogenesis. These changes are specific for systemic sclerosis but non-specific abnormalities can also be seen in dermatomyositis, mixed connective tissue disease and SLE.

Images from Belfast Trust Capillaroscopy clinic (Patient permission granted) 200x Magnification:

Image Left: Normal Capillaroscopy with hairpin capillaries and normal density.

Image Right: Abnormal Image in Systemic Sclerosis with a Giant capillary and loss of Capillary density.

HYPERTENSION TARGETS - MOVING THE GOALPOSTS AGAIN!

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Hypertension, defined as blood pressure ≥140/90 mmHg, is the leading risk factor for mortality and disability-adjusted life years.\(^1\) To promote earlier intervention and reduce the risk of complications that occur at lower blood pressure levels recent US guidelines have reduced the threshold for diagnosis to ≥130/80 mmHg (Stage 1 Hypertension)\(^2\). Intervention includes lifestyle advice and risk modification. They advocate that only those with Stage 1 Hypertension with a previous cardiac event or a 10 year atherosclerotic cardiovascular risk of 10% or higher should be commenced on pharmacological treatment. In the UK, NICE https://www.nice.org.uk/guidance/indevelopment/gid-ng10054/documents are also advocating for similar changes to hypertension guidelines.

It is predicted that half the US population will have hypertension with the new guidelines (compared to one third at present). The largest increase in prevalence will be amongst younger adults (doubling in women <45 years old and tripling in men <45 years old).\(^3\) There is no comparable UK data available yet.

Guideline authors stressed that increasing the prevalence of hypertension will heighten awareness, promote healthy lifestyles and reduce cardiovascular and renal risks. They argue that medication use will only rise modestly, but will be more focused and aggressive in those deemed to have established cardiovascular risk.

The defining blood pressure levels have been lowered but arguably the approach to hypertension is changing too.

Reference is made to “resource constrained populations” and the need to consider socio-economic context when developing management strategies. In instances where more than one medication is required, preference should be given to combination formulations in order to promote patient adherence. Telehealth and mobile phone communication are cited as ways to promote health literacy.

Publication of the SPRINT study potentially favours more aggressive treatment aims for hypertension, although not without considerable risk of adverse events from medications.\(^4\) There are also broader questions to ask. Are we too quick to deal with numbers instead of real people when it comes to treatment strategies and how can we improve the experience of living, not just by reducing mortality?


