

Decision aid for management of asymptomatic cerebrovascular or retinal changes

Stroke clinicians are often asked for advice about **asymptomatic cerebrovascular changes detected on brain imaging** done for reasons other than suspected stroke or TIA. We are sometimes asked about retinal changes too. This factsheet aims to guide colleagues in primary and secondary care when they encounter these **common findings** (prevalence of white matter changes due to cerebral small vessel disease: ~5% aged 50, >90% over 80 years). We recommend **assessment of modifiable cardiovascular risk factors** (smoking, alcohol use, obesity, diet and physical activity) and management of **relevant comorbidities** (hypertension, hypercholesterolaemia, diabetes) be considered in all cases according to [Scottish guidance for prevention of cardiovascular disease](#). Indications for referral to stroke or neurology for further assessment are outlined in the table.

BRAIN asymptomatic imaging finding	Risk factor management	When to refer
White matter changes consistent with small vessel disease	Primary prevention: assess modifiable cardiovascular risk factors and manage co-morbidities	Consider neurology referral if all three apply: - aged under 65 <i>and</i> - changes not due to cardiovascular risk factors <i>and</i> - there are focal neurological and/or cognitive changes not explained by other causes
Lacunes (basal ganglia, brainstem or cerebellum)	Primary prevention: assess modifiable cardiovascular risk factors and manage co-morbidities	Consider stroke referral if you are uncertain about relevance of symptoms (i.e., you think they may have a clinical diagnosis of stroke and may require secondary prevention).
Cortical infarcts (cerebral lobes or cerebellum)	12-lead ECG to assess for atrial fibrillation - Primary prevention: assess modifiable cardiovascular risk factors and manage co-morbidities - Further stroke-specific investigations and secondary prevention considered on a case-by-case basis by stroke team	Refer to stroke unless further investigation and management is not appropriate (e.g., significant dependence on others, limited life expectancy, not consistent with patient's wishes) Consider optician or occupational therapy referral to assess for visual or cognitive deficits
EYE chronic or asymptomatic finding	Risk factor management	When to refer
Chronic central retinal artery occlusion (CRAO) or branch retinal artery occlusion (BRAO)	12-lead ECG to assess for atrial fibrillation - Assess modifiable cardiovascular risk factors and manage co-morbidities - If atherosclerotic vascular disease most likely cause: consider antiplatelet (e.g. clopidogrel 75 mg daily), statin, BP lowering	Discuss with the stroke team (see Transient Ischaemic Attack (TIA) and Stroke – RefHelp) if acute (≤ 14 days from symptom onset) symptomatic CRAO or BRAO confirmed by ophthalmology so that urgent carotid artery assessment +/- intervention can be considered

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References: Wardlaw JM, Debette S, Jokinen H, et al. ESO Guideline on covert cerebral small vessel disease. Eur Stroke J. 2021;6(2):CXI-CLXII

National Clinical Guideline for Stroke for the UK and Ireland. London: Intercollegiate Stroke Working Party; 2023 May 4. Available at: www.strokeguideline.org.