Joint UK Societies' Consensus Summary Statement on Renal Denervation for Resistant Hypertension.

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Background to the Joint Societies' Statement on Renal Denervation.

Renal denervation for proven resistant hypertension is a new procedure with an emerging evidence base of effectiveness and safety [1,2,3]. This Joint Societies' Consensus Statement was prepared to support the National Institute of Health and Clinical Excellence Interventional Procedure Guidance on Renal Denervation (NICE IP923) by representatives of key stakeholder societies.

Eligiblity for renal denervation.

We recommend that we rely upon the current evidence-base to select patients with resistant hypertension who may be eligible for this therapy. In the trials, resistant hypertension was defined as a sustained clinic systolic blood pressure of ≥ 160 mm Hg (≥ 150 mm Hg in Type 2 Diabetes) in patients on 3 or more anti-hypertensive medications. This is equivalent to stage 2 hypertension which is an average clinic blood pressure >160 mm Hg and equivalent to a daytime average on ambulatory blood pressure >150 mm Hg as defined by the 2011 National Institute of Health and Clinical Excellence (CG 127) Hypertension Guideline[4]. We further recommend that to be eligible for renal denervation patients should have progressed through the medications recommended at step 4 in the NICE/British Hypertension Society Treatment Algorithm in CG 127 [4]. Confirmation of sustained raised blood pressure using ambulatory blood pressure monitoring is essential (as above). It will allow detection of a "white coat", or alerting response which may be a cause of apparently resistant hypertension.

The multi-disciplinary team of hypertension specialists and interventionalists.

The selection, treatment and follow up of patients for this intervention requires a multidisciplinary team which must include hypertension specialists who can demonstrate active involvement in the routine investigation and care of patients with resistant hypertension. They will provide detailed assessment of the eligibility of the patients to receive this procedure, excluding non-compliance, secondary causes of hypertension and ensuring that a full range of lifestyle and therapeutic options have been carefully tried. The intervention may be undertaken by interventional cardiologists or radiologists who have been trained in the procedure and are competent to manage complications such as dissection of the renal artery.

Preparing patients for renal denervation.
Preparation of patients for this therapy will entail providing a clear description of the procedure including provision of contemporary statistics on success rates/potential complications, detailed technical information regarding the procedure itself and after care. In particular loin or abdominal pain occurs in the majority of recipients during ablation and adequate peri and post-procedural analgesia should be provided. Blood pressure typically falls gradually over time and, although uncommon, post-procedural hypotension has been noted.

Establishing a National Registry for Renal Denervation.
The Joint Societies recommend that data on all patients undergoing this procedure in the United Kingdom must be submitted to a national registry to inform practice, generate research opportunities and permit audit of clinical effectiveness.

This statement should be read in conjunction with the following guidance from the National Institute of Health and Clinical Excellence:

NICE - IP923 Percutaneous transluminal radiofrequency sympathetic denervation of the renal artery for resistant hypertension[5].

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References:

1. Krum H, Schlaich M, Whitbourn R, et al. Catheter-based renal sympathetic denervation for resistant hypertension: a multicentre safety and proof-of-principle cohort study. *Lancet.* Apr 11 2009;373(9671):1275-1281.

2. Esler MD, Krum H, Sobotka PA, Schlaich MP, Schmieder RE, Bohm M. Renal sympathetic denervation in patients with treatment-resistant hypertension (The Symplicity HTN-2 Trial): a randomised controlled trial. *Lancet.* Dec 4 2010;376(9756):1903-1909.

3. Catheter-based renal sympathetic denervation for resistant hypertension: durability of blood pressure reduction out to 24 months. *Hypertension.* May 2011;57(5):911-917.

4. http://guidance.nice.org.uk/CG127/Guidance/pdf/English.

5. NICE - IP923 Percutaneous transluminal radiofrequency sympathetic denervation of the renal artery for resistant hypertension. www.nice.org.uk.