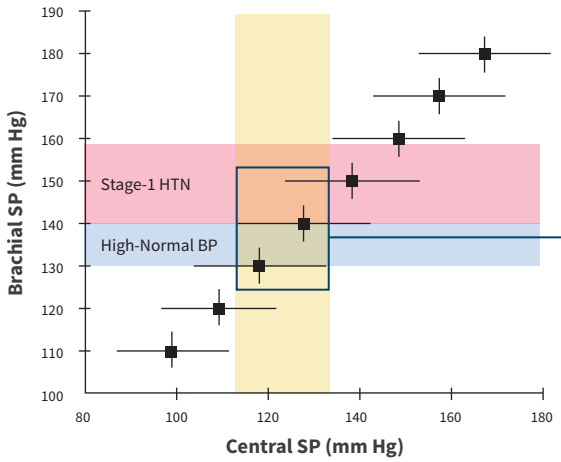
Beyond Brachial Pressure

Central Arterial Pressure Waveform Analysis Provides Critical Information for Hypertension Management

Aortic Pressure Cannot be Predicted by Brachial Pressure

Central aortic pressure is the most clinically relevant measure of load on the heart with significant effects on perfusion of central organs.



McEniery et al. *Eur Heart J.* 2014:35:1719-1725.

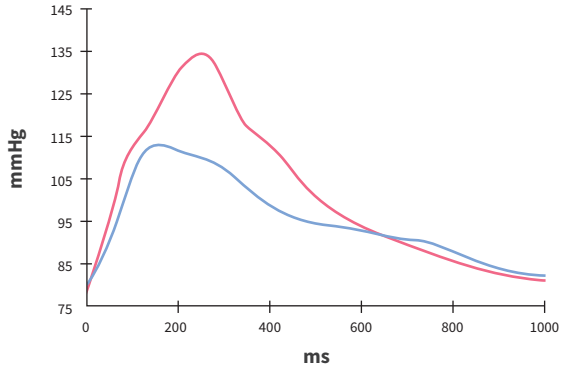
Greater than 70% overlap in central systolic pressure

Extensive overlap in central pressure across different categories of brachial blood pressure indicates that **significant patient subsets may be over-treated or under-treated** when only brachial blood pressure is considered.

What are the implications in light of the SPRINT study findings?

	BRACHIAL BP	CENTRAL BP
PATIENT 1	140/80	136/80
PATIENT 2	140/80	115/82

Central Pressure Waveforms



The SPRINT study found significantly higher occurrence rates of hypotension and acute kidney injury among other SAEs in the intensive treatment group.

Patient 1 and Patient 2 have different levels of risk and different therapeutic requirements, despite having the same brachial blood pressure.

Central arterial pressure waveform analysis with SphygmoCor helps provide the full picture about each patient's individual physiology and better informs blood pressure management.

Central aortic pressure is the most clinically relevant measure of load on the heart with significant effects on perfusion of central organs.[1]

An extensive body of clinical evidence has demonstrated that central blood pressure is an independent predictor of cardiovascular disease, target organ damage and adverse clinical events.[2-13] In addition, numerous studies have demonstrated superiority of central pressure over brachial pressure in this regard.[14-28]

In the clinical management of hypertension, central pressure waveform analysis allows clinicians to assess the influence of arterial stiffness and wave reflections on systolic pressure. This additional information can help guide patient care by enabling a physician to select the most effective treatment modalities and medications for a patient's individual physiology and better manage the patient to current guidelines.

- **Aortic pressure cannot be inferred from brachial blood pressure.**
- **Central pressure waveform analysis provides important information to better inform hypertension management.**
  - Assessment of individual physiology for directed care.
  - Management of patients in whom treatment decisions are uncertain.
  - Differential drug effects on brachial vs. central pressure.
- **Understanding effects of arterial stiffness and wave reflections aids in diagnosis and treatment decisions.**
  - Decision to initiate, intensify or change therapy.
  - Choice of anti-hypertension agents and regimen.
  - Assessment of therapy effectiveness to guide further treatment.

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