

# SPHYGMOCOR

## Central Arterial Pressure Waveform Analysis

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PULSES  
simply the  
gold standard

## VALUE ANALYSIS COMMITTEE RESOURCE GUIDE



## > SPHYGMORCOR IS ESSENTIAL FOR HYPERTENSION MANAGEMENT

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**Central pressure waveform analysis provides critical information that cannot be obtained from a brachial blood pressure measurement.**

This information is essential in advancing the management of hypertensive and pre-hypertensive patients as it can have a considerable impact on treatment decisions. In fact, a significant number of patients may be over-treated when only their brachial blood pressure is considered.

In the clinical management of hypertension, SphygmoCor is essential for individualizing care and better informing blood pressure management, ultimately helping physicians get patients to goal more quickly.



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# OVERVIEW

50%



## OF ADULTS DO NOT HAVE THEIR HYPERTENSION UNDER CONTROL.

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There is demonstrated clinical value in analyzing the central arterial pressure waveform, which provides information that cannot be obtained from a brachial blood pressure measurement. Hundreds of studies and years of clinical use have confirmed that:

- > There are major discrepancies in central aortic blood pressure among individuals with the same brachial blood pressure
- > Central blood pressure distinguishes individuals with or without target organ damage better than brachial blood pressure
- > Antihypertensive medications have differential effects on central vs. brachial blood pressure, which may explain clinical outcomes
- > End organ changes after antihypertensive therapy are more strongly related to central blood pressure than brachial blood pressure

## > SPHYGMOCOR IS ESSENTIAL FOR HYPERTENSION MANAGEMENT

Central pressure waveform analysis has been demonstrated to be valuable in clinical decision-making.

- > Deciding when to initiate, intensify or change therapy
- > Deciding what class of antihypertensive to add when another medication is needed
- > Deciding on whether a change made at a previous office encounter has had as desirable effect

Using SphygmoCor results to guide hypertension treatment often leads to a reduction in medications as a significant number of patients may be over-treated when only their brachial blood pressure is considered.

Additionally, customers report assessing central aortic pressure on approximately 30% of their patients, helping to individualize and improve therapy selection for borderline hypertensive patients, patients near blood pressure goal and resistant hypertensive patients.



**> GET PATIENTS  
TO GOAL MORE  
QUICKLY AND  
IMPROVE QUALITY  
OF LIFE**

# ECONOMICS



## > WHAT IS THE BENEFIT TO THE HOSPITAL OR PRACTICE?

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- **Improved hypertension management**
  - > Patient quality of life and satisfaction
  - > Compliance with mandates for improved performance
  - > Financial incentives for improving hypertension management
- **Reduce costs**
  - > Hospital or practice costs
  - > Medication costs for patients
- **Differentiate your hospital or practice**
  - > New technology
  - > Maintain patient base and increase referrals
- **Achieve positive cash flow quickly**

# REGULATORY

**> REALIZE POSITIVE CASH FLOW IN 6 MONTHS WITH AS FEW AS 6 PATIENTS PER DAY**

Payback Calculator		Purchase Option				
\$18	Average Local Reimbursement	Patients/day	3	4	5	6
\$15,000	Investment	Payback (mo)	14	10	8	7
		24 month net cash flow	\$10,800	\$20,160	\$28,800	\$36,720

AtCor Medical offers both purchase and lease options for SphygmoCor. Additionally, AtCor Medical is available to assist in the billing and reimbursement process.

SphygmoCor can be customized to automatically perform brachial blood pressure measurements and a central pressure waveform analysis in one session, providing a more complete picture for hypertension management. The results are immediately available and are critical for making more informed treatment decisions.

**NONINVASIVE  
CENTRAL ARTERIAL  
PRESSURE  
WAVEFORM ANALYSIS  
IS REIMBURSABLE  
USING CPT CODE**

**93050**

# REGULATORY

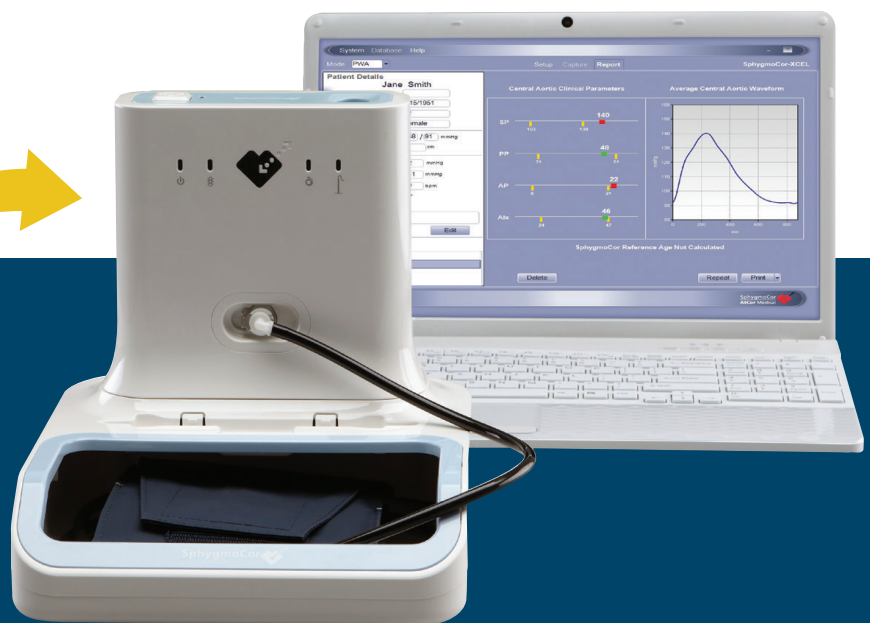
## > INTENDED USE

The SphygmoCor XCEL system provides a derived ascending aortic blood pressure waveform and a range of central arterial indices.

These measurements are provided non-invasively through the use of a brachial cuff. It is to be used on those patients where information related to ascending aortic blood pressure is desired but the risks of cardiac catheterization procedure or other invasive monitoring may outweigh the benefits.

Additionally, the SphygmoCor' XCEL System automatically measures systolic blood pressure and diastolic blood pressure.

The SphygmoCor XCEL pulse wave velocity (PWV) option is intended to obtain PWV



DEVICE NAME  
**SphygmoCor  
XCEL**

501(K) NUMBER  
**K122129**

# TECHNICAL INFORMATION

## > OVERVIEW

Blood pressure in the brachial artery can be very different from the pressure in the aorta at the heart. Numerous studies have shown that the central aortic blood pressure explains differential effects of anti-hypertensive drugs and predicts clinical outcomes significantly better than brachial pressure.

Today, technology allows for the noninvasive measurement of the central aortic pressure waveform with the same fidelity as a pressure catheter placed in the ascending aorta, without the associated costs and risks. The predictive superiority of central arterial pressure waveform analysis over brachial blood pressure is primarily due to the closer proximity of the ascending aorta to important target organs such as the heart, brain, and kidney.<sup>1</sup>

### Three aspects of central arterial pressure waveform analysis are especially important:

- > Individual variability in the difference between central and brachial pressures can be significant and clinically important.<sup>2,3,4</sup>
- > Central pressures cannot be reliably inferred from brachial pressures.<sup>2,3,4</sup>
- > Medications may have significantly different effects on brachial blood pressure than on the central arterial pressure waveform.<sup>5,6,7</sup>

SphygmoCor allows for noninvasive assessment of the central arterial pressure waveform, measures of arterial stiffness and autonomic function, providing measurement of pressure that the heart, brain and kidneys actually experience.

### Noninvasive Central Arterial Pressure Waveform Analysis

Central systolic blood pressure cannot be estimated from the brachial systolic value. In one study of more than 10,000 adults aged 18 to 101 years, McEnery et al. reported individual brachial systolic pressures that ranged from 100 to 200mmHg. They found individual variability between brachial and central systolic pressures ranging from as few as 2-3mmHg to approximately 30mmHg. Because of individual variability, a patient's central pressure cannot be reliably inferred from his or her brachial pressure measurement.

The SphygmoCor XCEL System derives the central aortic pressure waveform using a blood pressure cuff. A generalized transfer function is used to derive the central aortic pressure waveform and corresponding indices. The procedure can be conducted in the office setting and is easy to perform, painless and reproducible.

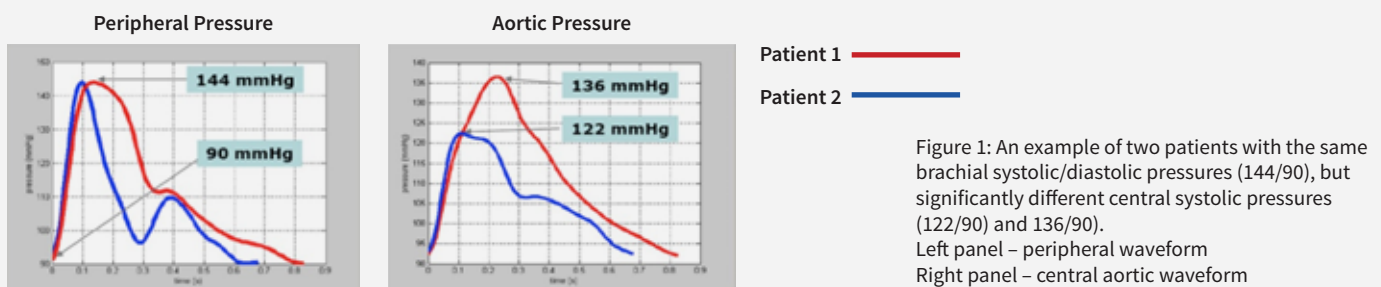


Figure 1: An example of two patients with the same brachial systolic/diastolic pressures (144/90), but significantly different central systolic pressures (122/90) and 136/90).

Left panel – peripheral waveform  
Right panel – central aortic waveform



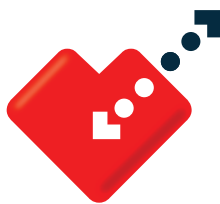
# ABOUT ATCOR MEDICAL

# **VOICE** *of the* CUSTOMER



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