aCARDIOz Specialized Strategic Impedance Bio Research – SSIBR & Pulse Oximetry Technology

1: Pulse Rate (PR). Pulse rate is the number of heart beats (cardiac cycles) per minute. It is measured from the R-R interval of the electrocardiogram (ECG). The electrocardiogram is a cardiac electrical parameter measured by the SSIBR system. HR is expressed in beats/min.

2: O2 Sat (SpO2): The oxygenated hemoglobin (hemoglobin containing oxygen) compared to the total amount of hemoglobin in the blood (oxygenated and non-oxygenated hemoglobin) as an expressed percentage for peripheral capillary oxygen saturation.

3: Stroke Volume (SV): Stroke volume is the amount of blood pumped out of the left ventricle in one heartbeat/cardiac cycle. It is expressed in ml/beat.

4: Stroke Index (SI): Stroke index is the stroke volume normalized to the body surface area (BSA). This allows a large individual to be compared with a small individual.

5: Arterial Stiffness Index (ASI): The ASI is a measurement of the large arteries for early detection of multiple chronic inflammatory disorders utilizing Pulse Wave Velocity. It is a measure of the timing of the diastolic relative to the systolic component. A higher ASI is considered indicative of noncompliance relative to calcification and abnormal arterial wall function.

6: Arterial Reflective Index (ARI): The ARI is a measurement of the small arteries for early detection of multiple chronic inflammatory disorders utilizing Pulse Wave Velocity. It is a measure of the timing of the diastolic relative to the systolic component. A higher ARI is considered indicative of noncompliance relative to calcification and abnormal arterial wall function.

7: Hydration/Pulse Height (HPH): The hydration/pulse height is a measurement of the volume of blood in the arterial system utilizing digital pulse wave analysis.

8: Large Artery Elastic Index (LAEI): The large artery elastic index is the measurement of the large artery system compliance utilizing digital pulse wave analysis.

9: Small Artery Elastic Index (SAEI): The small artery elastic index is the measurement of the small artery system compliance utilizing digital pulse wave analysis.

10: Peripheral Artery Elastic Index (PAEI): The peripheral artery elastic index is the measurement of the peripheral artery system compliance utilizing digital pulse wave analysis.

11: Cardiac Output (CO): Cardiac output is the amount of blood pumped out of the heart in one minute. CO is expressed in liters/minute. Since the left and right sides of the heart (ventricles) are matched under normal conditions, the right ventricular output into the lung (Thermodilution method) should equal the left ventricular output (SSIBR method) pumped into the systemic circulation.

12: Cardiac Index (CI): Cardiac index is the cardiac output normalized to body surface area (BSA). This allows comparisons between large and smaller individuals.

13: Stroke Work (SW): Stroke work is a measure of the performance of the heart, usually referring to the left ventricle and cardiac output; it is increased in hypovolemia and hypertension and decreased in aortic stenosis, shock, and heart failure.

14: Cardiac Work (CW): Cardiac work is a measure of the performance on the heart each minute.

15: End Diastolic Volume (EDV): End diastolic volume is the filling volume of blood in the left ventricle. It is called the preload to the left heart.

16: End Systolic Volume (ESV): End systolic volume is the volume of blood in the left ventricle at the end of systole.

17: Left Ventricular Ejection Time (LVET): The left ventricular ejection time is the time (milliseconds) it takes the heart (left ventricle) to eject blood (SV) into the aorta. It is the interval between the opening and closure of the aortic valve. The interval assess left ventricular performance.

18: Left Ventricular Ejection Fraction (LVEF): Left ventricular ejection fraction is an efficiency parameter term expressed as a percentage for the left heart. It is the fraction of the end diastolic volume pumped out of the heart each cardiac cycle.

19: Aortic Ejection Velocity (AEV): Aortic ejection is the heart blood ejection velocity into the aorta for each cardiac cycle.

20: Myocardial Function Curve (MFC): The myocardial function curve is known as the Starling curve. It is the relationship between the output of the heart (SV) to the input to the heart (EDV).

21: Thoracic Fluid Volume (TFV): The total volume of the fluid within heart, the plural space, the lung and chest wall.

22: Basal Thoracic Impedance (BTI): The basal thoracic impedance is the impedance between the inner two recording electrodes, including the heart, lung, chest wall, plural space and the medial sternal.

23: Left Main Coronary Artery Blood Flow (LMCBF): The total blood flow through the left coronary artery occurring in early diastole.

24: Left Main Coronary Artery Blood Flow Velocity (LMCBFV): The blood flow velocity through the left coronary artery occurring in early diastole.

25: Right Main Coronary Artery Blood Flow (RMCBF): The total blood flow through the right coronary artery occurring in early diastole.

26: Right Main Coronary Artery Blood Flow Velocity (RMCBFV): The blood flow velocity through the right coronary artery occurring in early diastole.

27: Left Circumflex Coronary Artery Blood Flow (LCCBF): The total blood flow through the left circumflex coronary artery occurring in early diastole.

28: Left Circumflex Coronary Artery Blood Flow Velocity (LCCBFV): The blood flow velocity through the left circumflex coronary artery occurring in early diastole.

29: Right Circumflex Coronary Artery Blood Flow (RCCBF): The total blood flow through the right circumflex coronary artery occurring in early diastole.

30: Right Circumflex Coronary Artery Blood Flow Velocity (RCCBFV): The blood flow velocity through the right circumflex coronary artery occurring in early diastole.

31: Left Anterior Descending Coronary Artery Blood Flow (LADCBF): The total blood flow through the left anterior descending coronary artery occurring in early diastole.

32: Left Anterior Descending Coronary Artery Blood Flows Velocity (LADCBFV): The blood flow velocity through the left anterior descending coronary artery occurring in early diastole.

33: Right Anterior Descending Coronary Artery Blood Flow (RADCBF): The total blood flow through the right anterior descending coronary artery occurring in early diastole.

34: Right Anterior Descending Coronary Artery Blood Flow Velocity (RADCBFV): The blood flow velocity through the right anterior descending coronary artery occurring in early diastole.

35: Left Posterior Descending Coronary Artery Blood Flow (LPDCBF): The total blood flow through the left posterior descending coronary artery occurring in early diastole.

36: Left Posterior Descending Coronary Artery Blood Flow Velocity (LPDCBFV): The blood flow velocity through the left posterior descending coronary artery occurring in early diastole.

37: Right Posterior Descending Coronary Artery Blood Flow (RPDCBF): The total blood flow through the right posterior descending coronary artery occurring in early diastole.

38: Right Posterior Descending Coronary Artery Blood Flow Velocity (RPDCBFV): The blood flow velocity through the right posterior descending coronary artery occurring in early diastole.

39: Left Marginal Blood Flow (LMBF): The total blood flow through the left marginal coronary artery occurring in early diastole.

40: Left Marginal Blood Flow Velocity (LMBFV): The blood flow velocity through the left marginal coronary artery occurring in early diastole.

41: Right Marginal Blood Flow (RMBF): The total blood flow through the right marginal coronary artery occurring in early diastole.

42: Right Marginal Blood Flow Velocity (RMBFV): The blood flow velocity through the right marginal coronary artery occurring in early diastole.

43: Peripheral Arterial Blood Flows (PABF): The total blood flow through the peripheral vessels (arms, legs and neck) except the brain occurring during systole.

44: Peripheral Arterial Blood Flow Velocities (PABFV): The blood flow velocities through the peripheral artery occurring in early diastole.

45: Peripheral Venous Flows and Vascular Occlusions (PVFVO): The venous flow in the large veins returning blood flow to the heart where vascular occlusions can be identified.

46: Peripheral Vascular Resistance (PVR): Peripheral vascular resistance is the resistance to blood flow through the systemic circulation of the body.

47: Peripheral Venous Blood Flow (PVBF): This is a venous occlusion and electrical impedance method used to detect deep venous thrombi in the veins in the arms and legs.

48: Total Peripheral Resistance (TPR): The sum of the resistance of all peripheral vasculature in the system circulation. This should not be confused with Pulmonary Vascular Resistance, which is the resistance in the pulmonary vasculature.

49: Total Coronary Flows, Flow Velocities and Stenosis Detection (TCF, FV, SD): This is a template of the heart arterial system that shows the coronary artery, the flow velocities and the location and magnitude of intravascular stenosis.