

PRAM - Pressure Recording Analytical Method

MostCare & MostCare^{UP}

CLINICAL STUDIES

1. Peer reviewed journal

Original articles

Validations and comparisons

Vy_A01	Romano SM, Pistolesi M. Assessment of cardiac output from systemic arterial pressure in humans. <i>Crit Care Med</i> 2002 Aug; 30(8): 1834-41.
Vy_A04	Giomarelli P, Biagioli B, Scolletta S. Cardiac Output monitoring by pressure recording analytical method in Cardiac Surgery. <i>Eur J Cardiothorac Surg</i> 2004 Sep;26(3): 515-20.
Vy_A06	Scolletta S, Romano SM, Biagioli B, Capannini G, Giomarelli P. Pressure recording analytical method (PRAM) for measurement of cardiac output during various haemodynamic states. <i>Br J Anaesth</i> 2005 Aug;95(2): 159-65.
Vy_A11	Calamandrei M, Mirabile L, Musichetta S, Gensini GF, De Simone L, Romano SM. Assessment of cardiac output in children: a comparison between the pressure recording analytical method (PRAM) and the Doppler echocardiography method -a pilot study. <i>Pediatr Crit Care Med</i> 2008;9: 310-2.
Vy_A13	Romagnoli S, Romano SM, Bevilacqua S, Ciappia F, Lazzeric C, Peris A, Dini D, Gelsomino S. Cardiac output by arterial pulse contour: reliability under hemodynamic derangements. <i>Interact Cardiovasc Thorac Surg</i> 2009 Jun;8(6): 642-6.
Vy_A17	Zangrillo A, Maj G, Monaco F, Scandroglio AM, Nuzzi M, Plumari V, Virzo I, Bignami E, Casiraghi G, Landoni G. Cardiac Index Validation Using the Pressure Recording Analytic Method in Unstable Patients. <i>J Cardiothorac Vasc Anesth</i> 2010;24: 265-9.
Vy_A24	Franchi F, Silvestri R, Cubattoli L, Taccone FS, Donadello K, Romano SM, Giomarelli P, McBride WT, Scolletta S. Comparison between an uncalibrated pulse contour method and thermodilution technique for cardiac output estimation in septic patients. <i>Br J Anaesth</i> 2011;107(2): 202- 8.
Vy_A36	Franchi F, Falciani E, Donadello K, Zacà V, Silvestri R, Taccone FS, Cubattoli L, Mongelli P, Giomarelli P, Scolletta S. Echocardiography and pulse contour analysis to assess cardiac output in trauma patients. <i>Minerva Anesthesiol</i> 2013;79: 137-46.
Vy_A44	Barile L, Landoni G, Pieri M, Ruggeri L, Maj G, Nigro Neto C, Pasin L, Cabrini L, Zangrillo A. Cardiac Index Assessment by the Pressure Recording Analytic Method in Critically Ill Unstable Patients After Cardiac Surgery. <i>J Cardiothorac Vasc Anesth</i> 2013 Dec;27(6): 1108-13.
Vy_A46	Romagnoli S, Ricci Z, Romano SM, Dimizio F, Bonicolini E, Quattrone D, De Gaudio R FloTrac/VigileoTM (Third Generation) and MostCare®/PRAM Versus Echocardiography for Cardiac Output Estimation in Vascular Surgery. <i>J Cardiothorac Vasc Anesth</i> 2013 Dec;27(6): 1114-21
Vy_A47	Donati A, Carsetti A, Tondi S, Scorcella C, Domizi R, Damiani E, Gabbanelli V, Münch C, Adrario E, Pelaia P, Cecconi M. Thermodilution vs pressure recording analytical method in hemodynamic stabilized patients. <i>J Crit Care</i> 2014 Feb;29(2): 260-4.
Vy_A48	Garisto C, Favia I, Ricci Z, Romagnoli S, Haiberger R, Polito A, Cogo P. Pressure recording analytical method and bioactance for stroke volume index monitoring during pediatric cardiac surgery. <i>Paediatr Anaesth</i> 2014 Feb 3. [Epub ahead of print]

Vy_A52	Cameli M, Bigio E, Lisi M, Righini FM, Galderisi M, Franchi F, Scolletta S, Mondillo S. Relationship between pulse pressure variation and echocardiographic indices of left ventricular filling pressure in critically ill patients. <i>Clin Physiol Funct Imaging</i> 2014 Jun 5.
Vy_A53	Guarracino F, Ferro B, Forfori F, Bertini P, Magliacane L, Pinsky MR. Jugular vein distensibility predicts fluid responsiveness in septic patients. <i>Crit Care</i> 2014 Dec 5;18(6):647.
Vy_A60	Scolletta S, Franchi F, Romagnoli S, Carlà R, Donati A, Fabbri LP, Forfori F, Alonso-Iñigo JM, Laviola S, Mangani V, Maj G, Martinelli G, Mirabella L, Morelli A, Persona P, Payen D; Pulse wave analysis Cardiac Output validation (PulseCOval) Group. Comparison Between Doppler-Echocardiography and Uncalibrated Pulse Contour Method for Cardiac Output Measurement: A Multicenter Observational Study. <i>Crit Care Med</i> . 2016 Apr 19.
Vy_A64	Alonso-Iñigo JM, Escribá FJ, Carrasco JI, Fas MJ, Argente P, Galvis JM, Llopis JE. Measuring cardiac output in children undergoing cardiac catheterization: comparison between the Fick method and PRAM (pressure recording analytical method). <i>Paediatr Anaesth</i> 2016 Nov;26(11):1097-1105.
Vy_A72	Pittarello D, Vida V, Di Gregorio G, Falasco G, Stellin G, Ori C. Comparison between Pressure Recording Analytical Method and Fick Method to Measure Cardiac Output in Pediatric Cardiac Surgery. <i>The Open Anesth J</i> 2018, 12, 8-18.
Method explanation	
Vy_A10	Romano SM, Conti AA, Giglioli C, Margheri M., Valente S., Gensini GF, Conti A. Blood flow assessment by arterial pressure Wave without External Calibration. <i>Computers in Cardiology</i> 2006;33: 293-6.
Vy_A21	Romagnoli S, Romano SM, Bevilacqua S, Lazzeri C, Gensini GF, Pratesi C, Quattrone D, Dini D, De Gaudio AR. Dynamic response of liquid-filled catheter systems for measurement of blood pressure: precision of measurement and reliability of the Pressure Recording Analytical Method with different disposable systems. <i>J Crit Care</i> 2011 Aug;26(4): 415-22.
Vy_A29	Romano SM. Cardiac cycle efficiency: A new parameter able to fully evaluate the dynamic interplay of the cardiovascular system. <i>Int J Cardiol</i> 2012 Mar;155(2): 326-7.
PRAM measurement sensibility	
Vy_A02	Romano SM, Lazzeri C, Chiostrì M, Toso A, Foschi M, Pistoleri M, Di Donato M, Franco F. Continuous recording of dicrotic and pulse pressure during head-up tilting test: The vasodepressive profile. <i>Ital Heart J</i> 2002 Nov;3(11): 665-72.
Vy_A03	Franchi F, Lazzeri C, Romano SM, Toso A, Chiostrì M, Foschi M, Pistolesi M, Di Donato M. Baroflex function in vasodepressive syncope. Detection of early impairment. <i>Med Sci Monit</i> 2003 Mar;9(3): CR125-30.
Vy_A05	Romano SM, Lazzeri C, Chiostrì M, Gensini GF, Franchi F: Beat to beat pressure wave analytical method to evaluate hemodynamic profile of orthostatic intolerant patients during head-up tilt. <i>J Am Coll Cardiol</i> 2004 Nov;44(9): 1891-7.
Vy_A22	Scolletta S, Ranaldi G, Carlucci F, Franchi F, Romano SM, Biagioli B. Relationship between N-terminal pro-B-type natriuretic peptide (Nt-proBNP) and cardiac cycle efficiency in cardiac surgery. <i>Biomed Pharmacother</i> 2010 Oct; 511-5.

Vy_A31	Tarquini R, Mazzoccoli G, Fusi F, Laffi G, Gensini GF, Romano SM. Non invasive ontinuous hemodynamic evaluation of cirrhotic patients after postural challenge. <i>World J Hepatol</i> 2012 Apr 27;4(4): 149-53.
Vy_A38	Scolletta S, Bodson L, Donadello K, Taccone FS, Devigili A, Vincent JL, De Backer D. Assessment of left ventricular function by pulse wave analysis in critically ill patients. <i>Intensive Care Med</i> 2013;39: 1025-33.
Vy_A45	Franchi F, Faltoni A, Cameli M, Muzzi L, Lisi M, Cubattoli L, Cecchini S, Mondillo S, Biagioli B, Taccone FS, Scolletta S. Influence of positive end-expiratory pressure on myocardial strain assessed by speckle tracking echocardiography in mechanically ventilated patients. <i>Biomed Res Int</i> 2013;2013: 918548.
Vy_A51	Romagnoli S, Ricci Z, Quattrone D, Tofani L, Tujjar O, Villa G, Romano SM, De Gaudio A. Accuracy of invasive arterial pressure monitoring in cardiovascular patients: an observational study. <i>Crit Care</i> 2014 Nov 30;18(6):644.
PRAM in conjunction with an external device	
Vy_A07	Romano SM, Scolletta S, Olivotto I, Biagioli B, Gensini GF, Chiostrri M, Giomarelli P. Systemic arterial waveform analysis and assessment of blood flow during extra-corporeal circulation. <i>Perfusion</i> 2006;21: 109-16.
Vy_A15	Giglioli C, Landi D, Gensini GF, Valente S, Cecchi E, Scolletta S, Chiostrri M, Romano SM. Cardiac Efficiency Improvement after Slow Continuous Ultrafiltration Is Assessed by Beat-to-Beat Minimally Invasive Monitoring in Congestive Heart Failure Patients: A Preliminary Report. <i>Blood Purif</i> 2010;29: 44-51.
Vy_A20	Giglioli C, Landi D, Cecchi E, Chiostrri M, Gensini GF, Valente S, Ciaccheri M, Castelli G, Romano SM. Effects of ULTRAFiltration vs DLureticS on clinical neurohormonal and hemodynamic variables in patients with deCOMpensated heart failure: the ULTRADISCO study. <i>Eur J Heart Fail</i> 2011;13(3): 337-46.
Vy_A23	Scolletta S, Miraldi F, Romano SM, Muzzi L. Continuous cardiac output monitoring with an uncalibrated pulse contour method in patients supported with a mechanical pulsatile assist device. <i>Interact Cardiovasc Thorac Surg</i> 2011 Jul;13(1):52-6.
Vy_A26	Gelsomino S, Lucà F, Renzulli A, Rubino AS, Romano SM, van der Veen FH, Carella R, Maessen JG, Gensini GF, Lorusso R. Increased Coronary Blood Flow and Cardiac Contractile Efficiency With Intraaortic Balloon Counterpulsation in a Porcine Model of Myocardial Ischemia-Reperfusion Injury. <i>ASAIO J</i> 2011 Sep-Oct;57(5): 375-81.
Vy_A27	Scolletta S, Franchi F, Taccone FS, Donadello K, Biagioli B, Vincent JL. An Uncalibrated Pulse Contour Method to Measure Cardiac Output During Aortic Counterpulsation. <i>Anesth Analg</i> 2011 Dec;113(6): 1389-95.
Vy_A30	Gelsomino S, Renzulli A, Rubino AS, Romano SM, Lucà F, Valente S, Gensini GF, Lorusso R. Effects of 1:1, 1:2 or 1:3 intra-aortic balloon counterpulsation/heart support on coronary haemodynamics and cardiac contractile efficiency in an animal model of myocardial ischaemia/reperfusion. <i>Eur J Cardiothorac Surg</i> 2012;42: 325-32.
Vy_A32	Onorati F, Santini F, Amoncelli E, Campanella F, Chiominto B, Faggian G, Mazzucco A. How should I wean my next intra-aortic balloon pump? Differences between progressive volume weaning and rate weaning. <i>J Thorac Cardiovasc Surg</i> 2012;145: 1214-21.
Vy_A42	Ricci Z, Polito A, Netto R, De Razza F, Favia I, Carotti A, Cogo PE. Assessment of Modified Ultrafiltration Hemodynamic Impact by Pressure Recording Analytical Method During Pediatric Cardiac Surgery. <i>Pediatr Crit Care Med</i> 2013;14: 390-95.

Vy_A61	Gelsomino S, Lozekoot PW, Lorusso R, de Jong MJ, Parise O, Matteucci F, Lucà F, Kumar N, Romano M, Gensini GF, La Meir M, Maessen JG. The Optimal Weaning Strategy for Intraaortic Balloon Counterpulsation: Volume-Based Versus Rate-Based Approach in an Animal Model. <i>Ann Thorac Surg</i> 2016 Apr;101(4):1485-93.
Vy_A62	Romagnoli S, Zagli G, Ricci Z, Villa G, Barbani F, Pinelli F, De Gaudio R, Chelazzi C. Cardiac output: a central issue in patients with respiratory extracorporeal support. <i>Perfusion</i> 2017 Jan;32(1):44-49.
Vy_A70	Persona P, Saraceni E, Facchin F, Petranzan E, Parotto M, Baratto F, Ori C, Rossi S. Pulse contour analysis of arterial waveform in a high fidelity human patient simulator. <i>J Clin Monit Comput</i> 2018 Aug;32(4):677-681.
Various clinical applications and evaluations	
Vy_A12	Balderi T, Forfori F, Marra V, Di Salvo C, Dorigo M, Anselmino M, Romano SM, Giunta F. Continuous Hemodynamic Monitoring During Laparoscopic Gastric Bypass in Superobese Patients by Pressure Recording Analytical Method. <i>Obes Surg</i> 2008 Aug;18(8): 1007-14.
Vy_A14	Modesti PA, Gamberi T, Bazzini C, Borro M, Romano SM, Cambi GE, Corvi A, Dorigo W, Paparella L, Pratesi C, Carini M, Gensini G, Modesti A. Response of serum proteome in patients undergoing infrarenal aortic aneurysm repair. <i>Anesthesiology</i> 2009 Oct;111(4): 844-54.
Vy_A28	Giglioli C, Cecchi E, Landi D, Chiostrì M, Spini V, Valente S, Gensini GF, Romano SM. Levosimendan produces an additional clinical and hemodynamic benefit in patients with decompensated heart failure successfully submitted to a fluid removal treatment. <i>Congest Heart Fail</i> 2012;18: 47-53.
Vy_A34	Onorati F, Santini F, Menon T, Amoncelli E, Campanella F, Pechlivanidis K, Faggian G, Mazzucco A. Leukocyte filtration of blood cardioplegia attenuates myocardial damage and inflammation. <i>Eur J Cardiothorac Surg</i> 2013 Jan;43(1): 81-9.
Vy_A40	McBride WT, Ranaldi G, Dougherty MJ, Siciliano T, Trethowan B, Elliott P, Rice C, Scolletta S, Giomarelli P, Romano SM, Linton DM. The hemodynamic and respiratory effects of cuirass ventilation in healthy volunteers: part 1. <i>J Cardiothorac Vasc Anesth</i> 2012;26: 868-72.
Vy_A41	McBride WT, Ranaldi G, Dougherty MJ, Siciliano T, Trethowan B, Elliott P, Rice C, Scolletta S, Giomarelli P, Romano SM, Linton DM. The hemodynamic and respiratory effects of continuous negative and control-mode cuirass ventilation in recently extubated cardiac surgery patients: part 2. <i>J Cardiothorac Vasc Anesth</i> 2012;26: 873-7.
Vy_A43	Giglioli C, Tujjar O, Cecchi E, Landi D, Chiostrì M, Valente S, Baldereschi GJ, Meucci F, Gensini GF, Romano SM. Hemodynamic changes acutely determined by primary PCI in STEMI patients evaluated with a minimally invasive method. <i>World J Cardiovasc Dis</i> 2013;3: 69-72.
Vy_A50	Lazzeri C, Sori A, Bernardo P, Chiostrì M, Tommasi E, Zucchini M, Romano SM, Gensini GF, Valente S. Cardiovascular effects of mild hypothermia in post-cardiac arrest patients by beat-to-beat monitoring. A single centre pilot study. <i>Acute Card Care</i> . 2014 Jun;16(2):67-73.
Vy_A54	Ricci Z, Haiberger R, Pezzella C, Garisto C, Favia I, Cogo P. Furosemide versus ethacrynic acid in pediatric patients undergoing cardiac surgery: a randomized controlled trial. <i>Crit Care</i> 2015 Jan 7;19:2.
Vy_A55	Ricci Z, Haiberger R, Tofani L, Romagnoli S, Favia I, Cogo P. Multisite Near Infrared Spectroscopy during cardiopulmonary bypass in pediatric patients. <i>Artif Organs</i> . 2015 Jul;39(7):584-90.

Vy_A57	Messina A, Colombo D, Cammarota G, De Lucia M, Cecconi M, Antonelli M, Della Corte F, Navalesi P. Patient-ventilator asynchrony affects pulse pressure variation prediction of fluid responsiveness. <i>J Crit Care</i> 30 (2015) 1067–1071.
Vy_A58	Trabelsi W, Romdhani C, Elaskri H, Sammoud W, Bensalah M, Labbene I, Ferjani M. Effect of Ondansetron on the Occurrence of Hypotension and on Neonatal Parameters during Spinal Anesthesia for Elective Caesarean Section: A Prospective, Randomized, Controlled, Double-Blind Study. <i>Anesthesiol Res Pract</i> 2015;2015:158061.
Vy_A59	Morelli A, Singer M, Ranieri VM, D'Egidio A, Mascia L, Orecchioni A, Piscioneri F, Guarracino F, Greco E, Peruzzi M, Biondi-Zoccai G, Frati G, Romano SM. Heart rate reduction with esmolol is associated with improved arterial elastance in patients with septic shock: a prospective observational study. <i>Intensive Care Med</i> 2016.
Vy_A63	Favia I, Rizza A, Garisto C, Haiberger R, Di Chiara L, Romagnoli S, Ricci Z. Cardiac index assessment by the pressure recording analytical method in infants after paediatric cardiac surgery: a pilot retrospective study. <i>Interact Cardiovasc Thorac Surg</i> 2016 Dec;23(6):919-923.
Vy_A66	Han D, Liu YG, Luo Y, Li J, Ou-Yang C. Prediction of Fluid Responsiveness Using Pulse Pressure Variation in Infants Undergoing Ventricular Septal Defect Repair with Median Sternotomy or Minimally Invasive Right Thoracotomy. <i>Pediatr Cardiol.</i> 2017 Jan;38(1):184-190.
Vy_A68	Favia I, Romagnoli S, Di Chiara L, Ricci Z. Predicting Fluid Responsiveness in Children Undergoing Cardiac Surgery After Cardiopulmonary Bypass. <i>Pediatr Cardiol</i> 2017 Apr;38(4):787-793.
Vy_A69	Messina A, Romano SM, Bonicolini E, Colombo D, Cammarota G, Chiostrì M, Della Corte F, Navalesi P, Payen D, Romagnoli S. Cardiac cycle efficiency and diastolic pressure variations: new parameters for fluid therapy: A pilot observational study. <i>Eur J Anaesthesiol</i> 2017; 34:1–9.
Vy_A71	Han D, Liu YG, Pan S, Luo Y, Li J, Ou-Yang C. Comparison of hemodynamic effects of sevoflurane and ketamine as basal anesthesia by a new and direct monitoring during induction in children with ventricular septal defect: A prospective, randomized research. <i>Medicine (Baltimore)</i> 2017 Dec;96(50):e9039.
Vy_A73	Ristalli F, Romano SM, Stolcova M, Meucci F, Squillantini G, Valente S, Di Mario C. Hemodynamic monitoring by pulse contour analysis during trans-catheter aortic valve replacement: A fast and easy method to optimize procedure results. <i>Cardiovasc Revasc Med</i> 2018 Jul 19.
Review	
Vy_A09_R	Romano SM, Olivotto I, Chiostrì M, Giglioli C, Margheri M, Gensini GF. Minimally invasive and non invasive hemodynamic monitoring of the cardiovascular system: available options and future perspectives. <i>Curr Cardiol Reviews</i> 2006; 4(2): 37-9.
Vy_A19_R	Absi MA, Lutterman J, Wetzel GT. Noninvasive cardiac output monitoring in the pediatric cardiac intensive care unit. <i>Curr Opin Cardiol</i> 2010 Mar;25(2): 77-9.
Vy_A25_R	Vincent JL, Rhodes A, Perel A, Martin GS, Della Rocca G, Vallet B, Pinsky MR, Hofer CK, Teboul JL, de Boode WP, Scolletta S, Vieillard-Baron A, De Backer D, Walley KR, Maggiorini M, Singer M. Clinical review: Update on hemodynamic monitoring. A consensus of 16. <i>Crit Care</i> 2011 Aug;15(4):229.
Vy_A33_R	Marik PE. Noninvasive Cardiac Output Monitors: A State-of the-Art Review. <i>J Cardiothorac Vasc Anesth</i> 2013 Feb;27(1): 121-34.

Vy_A39_R	Romagnoli S. Circulatory failure: Exploring macro- and micro-circulation. <i>Trends in Anaesthesia and Critical Care</i> 2013 Jun;3(3): 109–15.
Vy_A49_R	Cecconi M, Arulkumaran N, Kilic J, Ebm C, Rhodes A. Update on hemodynamic monitoring and management in septic patients. <i>Minerva Anesthesiol</i> . 2014 Jun;80(6):701-11.
Vy_A56_R	Vincent JL, Pelosi P, Pearse R, Payen D, Perel A, Hoeft A, Romagnoli S, Ranieri M, Ichai C, Forget P, Della Rocca G, Rhodes A. Perioperative cardiovascular monitoring of high-risk patients: a consensus of 12. <i>Crit Care</i> 2015; 19:224.
Vy_A67_R	Romagnoli S, Franchi F, Ricci Z, Scolletta S, Payen D. The Pressure Recording Analytical Method (PRAM): Technical Concepts and Literature Review. <i>J Cardiothorac Vasc Anesth</i> 2016 Sep 14. pii: S1053-0770(16)30383-4.
Letter to the Editor	
Vy_L01	Romagnoli S, Romano SM. Estimation of hemodynamic parameters by arterial waveform: available technologies. <i>Anesth Analg</i> 2010;110: 257-8.
Vy_L02	McBride WT, Ranaldi G, Dougherty MJ, Siciliano T, Trethowan B, Elliott P, Scolletta S, Giomarelli P, Romano SM, Linton DM. Haemodynamic effects of negative pressure ventilation. <i>Br J Anaesth</i> 2011 Mar;106(3): 420.
Vy_L03	Ricci Z, Pilati M, Favia I, Garisto C, Romagnoli S, Rossi E. Hemodynamic monitoring by pulse contour analysis in critically ill children with congenital heart disease. <i>Pediatr Crit Care Med</i> 2011;12: 608-9.
Vy_L04	Giglioli C, Nesti M, Cecchi E, Landi D, Chiostrri M, Gensini GF, Spini V, Romano SM. Hemodynamic effects in patients with atrial fibrillation submitted to electrical cardioversion. <i>Int J Cardiol</i> 2013 Oct 9;168(4): 4447-50.
Case reports	
Vy_A08_C	Scolletta S, Gregoric ID, Muzzi L, Radovancevic B, Frazier OH. Pulse wave analysis to assess systemic blood flow during mechanical biventricular support. <i>Perfusion</i> 2007 Jan;22(1): 63-6.
Vy_A16_C	Romagnoli S, Romano SM, Bevilacqua S, Lazzeri C, Santoro G, Ciappi F, Gelsomino S, Dini D. Pulse contour cardiac output monitoring during a complicated percutaneous aortic valve replacement. <i>J Cardiothorac Vasc Anesth</i> 2010 Apr;24(2): 303-5.
Vy_A18_C	Scolletta S, Muzzi L, Romano SM, Gregoric ID, Frazier OH. The 'left' ventricle during pulsatile mechanical assistance: reliability of cardiac output monitoring with an uncalibrated pulse contour method. <i>Eur Heart J</i> 2010 Jan;31(2): 148.
Vy_A35_C	Pavoni V, Romagnoli S, Batignani G, Giancesello L, Horton A, Romano SM. Unsuspected Heart Failure: Usefulness of a Minimally Invasive Hemodynamic Monitoring System. <i>J Anesth Clin Res</i> 2012; 3(8).
Vy_A37_C	Franchi F, Silvestri R, Cubattoli L, Voltolini L, Mazzei MA, Giomarelli P. ARDS secondary to descending necrotizing mediastinitis treated by long-term extracorporeal respiratory support. <i>Respir Care</i> 2012 Nov;57(11): 1970-3.
Vy_A65_C	Giglioli C, Gelsomino S, Cecchi E, Baldereschi GJ, Acquafresca M, Marchionni N, Romano SM. Cardiac performance and ventricular-arterial coupling following PARACHUTE implantation. <i>Int J Cardiol</i> 2016 Nov 1;222:1019-21.

2. Chapters of book	
Vy_T05	Giomarelli P, Scolletta S, Romano SM. Analysis of arterial pulse – clinical implications . A Gullo(Ed) 2004, Springer, vol(19), Springer; cap 37: 417-23.
Vy_T08	Tulli G, Romano SM, Feminò R. Hemodynamic monitoring of septic patients with Pressure Recording Analytical Method (PRAM) . A Gullo(Ed) 2005, vol(20), Springer; cap 28: 323-29.
Vy_T09	Scolletta S, Romano SM, Giomarelli P. Minimally invasive hemodynamic monitoring using the pressure recording analytical method . Yearbook of Intensive Care and Emergency Medicine 2006, JL Vincent (Ed) 2006, Spinger; 192-202.
Vy_T12	Sorbara C, Romagnoli S, Rossi A, Romano SM. Circulatory failure: bedside functional hemodynamic monitoring . Atlee JL, Gullo A, 2nd eds. Perioperative critical care cardiology. Springer-Verlac, Italia 2007:89-110.
Vy_T13	Scolletta S, Franchi F, Giomarelli P, Biagioli B. Assessment of Cardiac Surgery Patients: The Coupling Between Pro-B-Type Natriuretic Peptide and Arterial Waveform Analysis . P.H. Bruno, M.T. Giordano, Cardiomyopathies: Causes, Effects and Treatment, Nova Publishers 2008.
Vy_T14	Giomarelli P, Casadei E, Scolletta S. Ventilatory-metabolic monitoring and analysis of arterial pulse . Anesthesia, Pain, Int Care and Emer A.P.I.C.E., 2006, part 5, pp. 305-12.
Vy_T15	Romagnoli S, Romano SM, Payen D. Hemodynamic from the Periphery , Annual Update in Intensive Care and Emergency Medicine 2011, JL Vincent (Ed) 2011, Springer; pp. 424-33.
Vy_T16	Scolletta S. MostCare Monitor . Encyclopedia of Intensive Care Medicine, Jean-Louis Vincent and Jesse B. Hall (Eds) 2012, Springer; pp. 1415-20.
Vy_T17	Scolletta S, Biagioli B, Franchi F, Muzzi L. Echocardiography and Hemodynamic Monitoring Tools for Clinical Assessment of Patients on Mechanical Circulatory Support . Recent Advances in the Field of Ventricular Assist Devices, Ed. Kazuo Komamura, 2013; pp. 23-47.
3. Editorials	
Vy_Ed01	Ronco R, Riquelme C. Cardiac output measurement in children: What is lacking? . Editorials <i>Pediatr Critl Care Med</i> 2008 May;(3): 333-4.
Vy_Ed02	Morelli A, Sanfilippo F, Romano SM. Esmolol in septic shock: old pathophysiological concepts, an old drug, perhaps a new hemodynamic strategy in the right patient . <i>J Thorac Dis</i> 2016 Nov;8(11):3059-3062.
4. Abstract and proceedings	
Abstracts	
Vy_Ab01	Michelucci A, Romano SM, Pieragnoli P, Ricciardi G., Di Biase L, Colella A, Nistri R, Padeletti L, Gensini GF. Mechanical and electrical alternans in heart failure implanted with biventricular pacemaker . GIAC, Vol 7 n4, Cardiac Resynchronization Therapy, p 45, 2004.
Vy_Ab02	Modesti PA, Gamberi T, Romano SM, Olivo G., Modesti A, Pratesi C, Gensini G., Simonetti I. Human Plasma Proteome and Haemodynamic Changes After Aortic Aneurysm Repair . <i>Circulation</i> . 2006;114:II_757
Vy_Ab03	Giomarelli P, Scolletta S, Biagioli B, Romano SM. Beat-by-beat measurement of cardiac output during aortocoronary surgery . 23 rd Int Symp on Int Care and Emerg Med, Brussels, Belgium, 18-21 March 2003; Crit Care Vol (suppl 2), s94.

Vy_Ab04	Pignalberi C, Pimpinella A, Ricci R, Russo M, Chiriaco T, Romano M, Cardano P, Santini M. Acute hemodynamic effects of permanent, direct His bundle pacing. <i>Europace (Supp.) Prague</i> 26-29 June 2005.
Vy_Ab05	Rossi A, Romano SM, Sorbara C, Gensini G. Cardiac pump performance in patients who underwent coronary artery bypass grafting. ISICEM, Brussels, Belgium. 21–24 March 2006, <i>Critical Care</i> 2006, 10(Suppl 1):P347
Vy_Ab06	Scolletta S, Romano SM, Maglioni E <i>et al.</i> Left ventricular performance by PRAM during cardiac surgery. <i>Intensive Care Med</i> 2005; 31(Suppl 1):S157.
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