



# Making a diagnostic difference

## Live 3D Echo and Live 3D TEE bibliography

Live 3D echocardiography is an exciting technology with promise to change the practice of cardiology as we know it today. The articles named demonstrate the intense interest in many premier hospitals around the world in pursuing new technologies, as well as the varied clinical potential evidenced by the varied use models in the bibliography.

### Recommended Use Models and Guidelines

**1 Practical Guide for Three-Dimensional Transthoracic Echocardiography Using a Fully Sampled Matrix Array Transducer**  
Author(s): Hyun Suk Yang, MD, PhD, Ramesh C. Bansal, MD, FASE, Farouk Mookadam, MBBCh, Bijoy K. Khandheria, MD, FASE, A. Jamil Tajik, MD, FASE, and Krishnaswamy Chandrasekaran, MD, FASE, Scottsdale, Arizona; and Loma Linda, California  
Publisher: Journal of the American Society of Echocardiography, September 2008

**2 ASE Position Paper: 3D Echocardiography: A Review of the current Status and Future Directions**  
Author(s): Judy Hung MD, Roberto Lang MD, Frank Flachskampf, MD, Stanton K. Shernon, MD, Marti L. McCulloch, RDCS, David B. Adams, RDCS, James Thomas, MD, Mani Vannan, MD and Thomas Ryan, MD  
Publisher: JASE; 2007 20; pp. 213-233

### Live 3D TEE in the Operating Room for Valves

**1 Comparison of Real Time Two-Dimensional with Live/Real Time Three-Dimensional Transesophageal Echocardiography in the Evaluation of Mitral Valve Prolapse and Chordae Rupture**  
Author(s): Jayaprakash Manda, MBBS; Saritha Kumari Kesanolla, MBBS; Ming Chon Hsuing, MD; Navin C. Nanda, MD; Elsayed Abo-Salem, MD; Rajarshi Dutta, MBBS; Charles Allen Laney, MD; Jeng Wei, MD; Chung-Yi Chang, MD; Shen-Kou Tsai, MD, PhD; Sachin Hansalia, MD; Wei-Hsian Yin, MD and Mason S. Young, MD  
Publisher: Journal compilation C 2008, Wiley Periodicals, Inc. DOI: 10.1111/j.1540-8175.2008.00832.

**2 Real-time Three-Dimensional Transesophageal Echocardiography: The Matrix Revolution**

Author(s): Gregory W. Fischer, MD; Ivan S. Salgo, MD; and David H. Adams, MD  
Publisher: Journal of Cardiothoracic and Vascular Anesthesia, Dec 2008, Vol. 22, Issue 6, Pages 904-912

**3 Real-Time Three-Dimensional Transesophageal Echocardiographic Imaging of Endomyocardial Fibrosis**

Author(s): Gregory W. Fischer, MD; Anelechi C. Anyanwu, MD; and Mario J. Garcia, MD  
Publisher: Journal of Cardiothoracic and Vascular Anesthesia, Vol 22, No 2 (April), 2008: pp 299-301

**4 Live 3-Dimensional Transesophageal Echocardiography; Initial Experience Using the Full-Sampled Matrix Array Probe**

Author(s): Lissa Sugeng, MD, MPH; Stanton K Shernan, MD; Ivan S Salgo, MD, MS; Lynn Weinert, BS; Doug Shook, MD; Jai Raman, MD, PhD.; Valluvan Jeevanandam, MD; Frank DuPont, MD; Scott Settlemier, BS; Bernard Savord, MS; John Fox, MD; Victor Mor-Avi, PhD; Roberto M Lang, MD  
Publisher: Journal of American College of Cardiology, Vol 52, No 6 2008; doi: 10.1016/j.jacc.2008.04.038

**5 Real-Time Three-Dimensional Transesophageal Echocardiography in the Intraoperative Assessment of Mitral Valve Disease**

Author(s): Jasmine Grewal, MD; Sunil Mankad, MD; William K Freeman, MD; Roger L Click, MD, PhD; Rakesh M Suri, MD; Martin D Abel, MD; Jae K Oh, MD; Patricia A Pellikka, MD; Gillian C Nesbitt, MD; Imran Syed, MD; Sharon L Mulvagh, MD; Fletcher A Miller, MD  
Publisher: Journal of the American Society of Echocardiography. November 2008 doi:10.1016/j.echo.2008.11.008

# PHILIPS

**6 Comparison of Real Time Two-Dimensional with Live/Real Time Three-Dimensional Transesophageal Echocardiography**

Author(s): Jayaprakash Manda, MBBS; Saritha Kumari Kesanolla, MBBS; Ming Chon Hsuang, MD; Navin C Nanda, MD; Elsayed Abo-Salem, MD; Rajarshi Dutta, MBBS; Charles Allen Laney, MD; Jeng Wei, MD; Chung-Yi Chang, MD; Shen-Kou Tsai, MD, PhD; Sachin Hansalia, MD; Wei-Hsian Yin, MD; Mason S Young, MD  
Publisher: Journal compilation C 2008, Wiley Periodicals, Inc. DOI: 10.1111/j.1540-8175.2008.00832.

**3 Echocardiographic Quantification of Left Ventricular Volume: What Can We Do Better?**

Author(s): Victor Mor-Avi, PhD; and Roberto M. Lang, MD, Chicago, Illinois  
Publisher: Journal of the American Society of Echocardiography, Volume 21 Number 9

**Live 3D TEE for Interventional Procedures**

**1 Revolution in Cardiac Imaging: Real Time 3D Transesophageal Echocardiography**

Author(s): Wojciech Mazur, MD, FACC; Eugene S. Chung, MD, FACC; David Collins, MS; Joseph K. Choo, MD, FACC  
Publisher: Cardiology, September 2008

**2 Clinical Vignette: Real-time three-dimensional transoesophageal echocardiography for guidance of atrial septal defect closures**

Author(s): Jan Balzer, Harald Kuhl, and Andreas Franke  
Publisher: doi:10.1093/eurheartj/ehh115 Online publish-ahead-of-print 13 March 2008

**3 Real-time transesophageal three-dimensional echocardiography for guidance of percutaneous cardiac interventions: first experience**

Author(s): Jan Baker, MD; Harald Kuehl, MD; Tienush Rassaf, MD; Rainer Joffman, MD; Patrick Schauerer, MD; Malte Kelm, MD; Andreas Franke, MD  
Publisher: Clin Res Cardiol (2008) DOI 10.1007/s00392-008-0676-3; http://www.springerlink.com/content/u105ww037736245m/

**4 Imaging Vignette: Percutaneous Closure of Atrial Septal Defect**

Author(s): Sagit Ben Zekry, MD; Sasidhar Guthikonda, MD, MPH, FACC; Stephen H. Little, MD FACC; Sherif F. Nagueh, MD, Facc; Kathleen M. Garcia, BS, RDCS, RVT; William A. Zoghbi, MD, FACC  
Publisher: JACC Cardiovascular Imaging, 2008 Oct 1 Volume 1, Number 4; PP 515 - 517

**5 Real-Time Three Dimensional TEE-Guided Repair of a paravalvular leak after Mitral Valve Replacement**

Author(s): Gregory W. Fischer, MD; David H. Adams, MD,  
Publisher: European Journal of Echocardiography; Doi 10 1093/ejehocard/jen203; Advance access July 24,2008

**6 Dynamic Imaging for Structural Heart Disease Interventions**

Author(s): John D Carroll, MD; www.cardiacinterventionstoday.com  
Publisher: Cardiac Interventions Today, May/June 2008

**7 Real-Time 3-Dimensional Transesophageal Echocardiography During Left Atrial Radiofrequency Catheter Ablation for Atrial Fibrillation**

Author(s): G Burkhard Mackensen, MD, PhD; Donald Hegland, MD; Danny Rivera, RCS; David B Adams, RCS, RDCS; Tristram D Bahson, MD  
Publisher: Circulation Cardiovascular Imaging 2008; doi:10.1161/circimaging.107.763128

**4 Standard Values for Real-Time Transthoracic Three-Dimensional Echocardiographic Dyssynchrony Indexes in a Normal Population**

Author(s): Vera M. L. Gimenes, MD, PhD; Marcelo L. C. Vieira, MD, PhD; Mercedes M. Andrade, MD; Jairo Pinheiro Jr, MD; Viviane T. Hotta, MD; and Wilson Mathias Jr, MD, PhD  
Publisher: Journal of the American Society of Echocardiography, November 2008

**5 How many Planes are Required to get an Accurate and Timesaving Measurement of Left Ventricular Volume and Function by Real-Time Three-Dimensional Echocardiography in Acute Myocardial Infarction?**

Author(s): Gui-Hau Yao, Fang Li, Cheng Zhang, Peng-Fei Zhang, Mei Zhang, Yu-Xia Zhao, Xiao-Nan Li, Shi-Fang Ding, Lin Zhong, and Yun Zhang  
Publisher: Ultrasound in Med. & Biol., Vol. 33, No. 10, pp. 1572–1578, 2007

**6 Real-Time 3 Dimensional Echocardiographic Quantification of Left Ventricular Volumes: Multicenter study for Validation with Magnetic Resonance Imaging and Investigation of Sources of Error**

Author(s): Victor Mor-Avi, PhD; Carly Jenkins, MS; Harald P. Kuhl MD; Hans-Joachim Nesser, MD; Thomas Marwick, MD; Andreas Franke, MD; Christian Ebner, MD; Benjamin H. Freed, MD; Regina Steribger-Mascherbauer, MD; Heidi Pollard, BS; Lynn Weinert, BS; Johannes Niel, MD; Lissa Sugeng, MD; Roberto M. Lang, MD  
Publisher: JACC Cardiovascular Imaging 2008; Volume 1, Number 4; p 413-423

**7 Rapid online quantification of left ventricular volume from real-time three-dimensional echocardiographic data**

Author(s): Lawrence D Jacobs, Ivan S Salgo, Sascha Goonewardena, Lynn Weinert, Patrick Coon, Dianna Bardo, Olivier Gerard, Pascal Allain, Jose L Zamorano, Leopoldo P de Isla, Victor Mor-Avi, Roberto M Lang  
Publisher: European Heart Journal (2007) 27, 460-468 doi:10.1093/eurheartj/ehi666

**3D and the Dyssynchrony Index**

**1 Role of Real Time 3D Echocardiography in Evaluating the Left Ventricle**

Author(s): Mark J Monaghan  
Publisher: Heart 2006;92:131–136. doi: 10.1136/hrt.2004.058388

**2 Real-time three-dimensional echocardiography as a novel approach to assess left ventricular and left atrium reverse remodeling and to predict response to cardiac resynchronization therapy**

Author(s): Nina Ajmone Marsan, MD; Gabe B. Bleeker, MD, PhD; Claudia Ypenburg, MD; Rutger J. Van Bommel, MD; Stefano Ghio, MD; Nico R. Van de Veire, MD, PhD; Victoria Delgado, MD; Eduard R. Holman, MD, PhD; Ernst E. van der Wall, MD, PhD; Martin J. Schalij, MD, PhD; Jeroen J. Bax, MD, PhD  
Publisher: Heart Rhythm, Vol 5, No 9, September 2008

**3 Assessment of Left Ventricular Dyssynchrony with Real-time 3-Dimensional Echocardiography: Comparison with Doppler Tissue Imaging**

Author(s): Masaaki Takeuchi, MD; Avrum Jacobs, MD; Lissa Sugeng, MD; Tomoko Nichikage, BS; Hiromi Nakai, BS; Lynn Weinert, BS; Ivan S Salgo, MD; Robert M Lang, MD  
Publisher: Journal of the American Society of Echocardiography, 2007; doi:10.1016/j.echo.2007.05.001

**4 Real-Time Three-Dimensional Echocardiography Permits: Quantification of Left Ventricular Mechanical Dyssynchrony and Predicts Acute Response to Cardiac Resynchronization Therapy**

Author(s): Nina Ajmone Marsan, MD; Gabe B. Bleeker, MD, PhD; Claudia Ypenburg, MD; Stefano Ghio, MD; Nico R. Van De Veire, MD, PhD; Eduard R. Holman, MD, PhD; Ernst E. Van Der Wall, MD, PhD; L. Tavazzi, MD; Martin J. Schalij, MD, PhD; and Jeroen J. Bax, MD, PhD  
Publisher: Journal of Cardiovascular Electrophysiology, Vol. 19, No. 4, April 2008 pp 39-,399

**3D for Global Function**

**1 Measurement of Left Ventricular Mass by Real-Time Three-Dimensional Echocardiography: Validation Against Magnetic Resonance and Comparison with Two-Dimensional and M-Mode Measurements**

Author(s): Masaaki Takeuchi, MD; Tomoko Nishikage, BS; Victor Mor-Avi, PhD; Lissa Sugeng, MD; Lynn Weinert, BS; Hironi Nakai, BS; Ivan S. Salgo, MD; Olivier Gerard, PhD; and Roberto M. Lang, MD  
Publisher: Journal of the American Society of Echocardiography, Volume 21 Number 9

**2 Matrix-Array 3-Dimensional Echocardiographic Assessment of Volumes, Mass, and Ejection Fraction in Young Pediatric Patients With a Functional Single Ventricle. A Comparison Study With Cardiac Magnetic Resonance**

Author(s): Brian D. Soriano, Martin Hoch, Alejandro Ithuralde, Tal Geva, Andrew J. Powell, Barry D. Kussman, Dionne A. Graham, Wayne Tworetzky and Gerald R. Marx  
Publisher: American Heart Association, DOI: 10.1161/CIRCULATIONAHA.107.715854, Circulation published online Mar 24, 2008

**5 Real-time 3-dimensional Echocardiography as a Novel Approach to Quantify Left Ventricular Dyssynchrony: A Comparison Study with Phase Analysis of Gated Myocardial Perfusion Single Photon Emission Computed Tomography**

Author(s): Nina Ajmone Marsan, MD; Maureen M Henneman, MD; Ji Chen, PhD; Claudia Ypenburg, MD; Petra Dibbets, MSc; Stefan Ghio, MD; Gabe B Bleeker, MD, PhD; Marcel P Stokkel, MD, PhD; Ernst E van der Wall, MD, PhD; Luigi Tavazzi, MD; Ernest V Garcia, PhD; Jeroen J Bax, MD, PhD

Publisher: Journal of the American Society of Echocardiography, 2008; doi:10.1016/j.echo.2007.12.006

**6 A Real-Time Three-Dimensional Echocardiographic Validation of an Intracardiac Electrogram-Based Method for Optimizing Cardiac Resynchronization Therapy**

Author(s): Maria Cristiana Porciani, MD; Carmelo Massimiliano Rao, MD; Matteo Mochi, BSEE; Franscisco Cappelli, MD; Gabriella Bongiorno, MD; Alessandro Paoletti Perini, MD; Alessio Lilli, MD; Giuseppe Ricciardi, MD; Laurence Hashtroudi, BSEE; Paolo Silvestri, BSEE; S Serge Barold, MD; Luigi Padeletti, MD

Publisher: PACE, Vol 31, January 2008

## TTE 3D for Examining Valves

**1 Quantification of Aortic Valve Area Using Three-Dimensional Echocardiography**

Author(s): Leopoldo Pérez de Isla, José Zamorano, Rocío Pérez de la Yglesia, Sara Cioccarelli, Carlos Almeria, José L. Rodrigo, Ada L. Aubele, Dionisio Herrera, Luis Mataix, Viviana Serra, and Carlos Macaya

Publisher: Unidad de Imagen Cardiovascular, Instituto Cardiovascular, Hospital Clínico San Carlos, Madrid, Spain

**2 Direct Assessment of Size and Shape of Noncircular Vena Contracta Area in Functional Versus Organic Mitral Regurgitation Using Real-time Three-dimensional Echocardiography**

Author(s): Philipp Kahlert, MD; Björn Plicht, MD; Ingmar M. Schenk, MD; Rolf-Alexander Janosi, MD; Raimund Erbel, MD, FACC, FESC; and Thomas Buck, MD, FACC, FESC

Publisher: Journal of the American Society of Echocardiography, Month 2008

**3 The Evaluation of Real-time 3-Dimensional Transthoracic Echocardiography for the Preoperative Functional Assessment of Patients with Mitral Valve Prolapse: A Comparison with 2-Dimensional Transesophageal Echocardiography**

Author(s): Rajan Sharma, MD, MRCP; Jon Mann, MRCP; Linda Drummond, MSC; Steve A. Livesey, FRCS; and Iain A. Simpson, MD, FRCP, FACC

Publisher: Journal of the American Society of Echocardiography, Volume 20 Number 8

**4 Live/Real-Time Three-Dimensional Transthoracic Assessment of Mitral Regurgitation and Mitral Valve Prolapse**

Author(s): Andrew P. Miller, MD; Navin C. Nanda, MD, FACC, FAHA, FSOC, FISCU

Publisher: Elsevier, Cardiol Clin 25 (2007) 319–325

**5 Assessing aortic valve area in aortic stenosis by continuity equation: a novel approach using real-time three-dimensional echocardiography**

Author(s): Kian Keong Poh, Robert A. Levine, Jorge Solis, Liang Shen, Mary Flaherty, Yue-Jian Kang, J. Luis Guerrero, and Judy Hung

Publisher: European Heart Journal (2008) 29, 2526–2535, doi:10.1093/eurheartj/ehn022

**6 Age and body surface area dependency of mitral valve and papillary apparatus parameters: assessment by real-time three-dimensional echocardiography**

Author(s): Carolin Sonne, Lissa Sugeng, Nozomi Watanabe, Lynn Weinert, Ken Saito, Miwako Tsukiji, Kiyoshi Yoshida, Masaaki Takeuchi, Victor Mor-Avi, and Roberto M. Lang

Publisher: European Journal of Echocardiography Advance Access published September 16, 2008

**7 Assessing Mitral Valve Area and Orifice Geometry in Calcific Mitral Stenosis: A New Solution by Real-Time Three-Dimensional Echocardiography**

Author(s): John W. Chu, MBChB, FRACP; Robert A. Levine, MD, FACC; Sarah Chua, MD; Kian-Keong Poh, MBChB, MRCP, FASE; Eleanor Morris, RDCS; Lanqi Hua, RDCS; Thanh-Thao Ton-Nu, MD; and Judy Hung, MD, FACC, Boston, Massachusetts

Publisher: Journal of the American Society of Echocardiography, September 2008

**8 Valvular and Congenital Heart Disease Accuracy of real-time 3-dimensional echocardiography in the assessment of mitral prolapse. Is transesophageal echocardiography still mandatory?**

Author(s): Juan Luis Gutiérrez-Chico, MD, FESC; José Luis Zamorano Gómez, MD, PhD, FESC; José Luis Rodrigo-López, MD; Luis Mataix, MD, PhD; Leopoldo Pérez de Isla, MD, PhD, FESC; Carlos Almeria-Valera, MD; Adalia Aubele, MD; and Carlos Macaya-Miguel, MD, PhD, FESC

Publisher: American Heart Journal, Volume 155, Number 4

**9 Real-time three-dimensional echocardiography in aortic stenosis; a novel, simple, and reliable method to improve accuracy in area calculation**

Author(s): Juan Luis Gutierrez-Chico, Jose Luis Zamorano, Elsa Prieto-Moriche, Rosa Ana Hernandez-Antolin, Marison Bravo-Amaro, Leopoldo Perez de Isla, Marcelo Sanmartin-Fernandez, Jose Antonio Baz-Alonso, Andres Iniguez-Romo

Publisher: European Heart Journal (2008) 29, 19296-1306 doi: 10.1093/eurheartj/ehm467 pp. 1296-1306

## 3D for Pediatric Patients

**1 Feasibility and Clinical Impact of Live Three-Dimensional Echocardiography in the Management of Congenital Heart Disease**

Author(s): Stefano De Castro, MD; Stefano Caselli, MD; Federica Papetti, MD; Flavia Ventriglia, MD; Arianna Giardina, MD; Elena Cavarretta, MD; Emanuele Di Angelantonio, MD; Andrea Marcantonio, MD; Florinda D. Igual Perez, MD; Natesa G. Pandian, MD; Bruno Marino, MD; and Francesco Fedele, MD

Publisher: Echocardiography: A Jnl. of CV Ultrasound & Allied Tech. Vol. 23, No. 7, 2006

**2 Early Experience with a Miniaturized Three Dimensional Matrix Transducer in Children**

Author(s): Girish S. Shirali, MBBS, FACC, FAAP

Publisher: Congenital Cardiology Today, Vol. 5 / Issue 1, January 2007

**3 Three-Dimensional Echocardiography in Congenital Heart Disease**

Author(s): Gerald R. Marx, MD; Xiaohong Su, MD

Publisher: Elsevier, Cardiol Clin 25 (2007) 357-365

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Printed in USA  
4522 962 51121/795 \* APR 2009

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