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, MBCh, Bijoy K. Khanderia, 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 Kesanaolla, MBBS; Ming Chon Hsuing, MD; Navin C. Nanda, MD; Elsayed Abo-Salem, MD; Rajashri Dutta, MBBS; Charles Allen Laney, MD; Jeng Wei, MD; Chung-Yi Chang, MD; Shen-Kou Tsai, MD, PhD; Sachin Hanssila, 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 Sherman, 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; Marvin D Abel, MD; Jae K Oh, MD; Patricia A Pelllikka, MD; Gillian C Nesbitt, MD; Imran Syed, MD; Sharon L Mulvagh, MD; Fletcher A Miller, MD

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

Author(s): Jayprakash Manda, MBBS; Saritha Kumari Kesanaolla, MBBS; Ming Chon Hueing, MD; Navin C. Nanda, MD; Elsayed Abo-Salem, MD; Rajasri Dutta, MBBS; Charles Allen Laney, MD; Jeng Wei, MD; Chung-Yi Chang, MD; Shien-Kou Tsai, MD, PhD; Sachin Hansalia, MD; Wei-Hsiun Yin, MD; Mason S. Young, MD

Live 3D TEE for Interventional Procedures

1. Revolution in Cardiac Imaging: Real Time 3D Transesophageal Echocardiography
   Author(s): Wojciech Mazur, MD, FACC; Eugenio S. Chung, MD, FACC; David Collins, MS; Joseph K. Choo, MD, FACC
   Publisher: Cardiology, September 2008

2. Clinical Vignette: Real-time three-dimensional transesophageal echocardiography for guidance of atrial septal defect closure
   Author(s): Jan Balzer, Harald Kuhl, and Andreas Franke

3. Real-time transesophageal three-dimensional echocardiography for guidance of percutaneous cardiac interventions: first experience
   Author(s): Jan Baker, MD; Harald Kuehl, MD; Tienhao Rassaf, MD; Rainer Joffman, MD; Patrick Schuertaere, 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 Gutikonda, MD, MPH, FACC; Stephen H. Little, MD, FACC; Fathir 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/europace/eur180; Advance access July 24, 2008

6. Dynamic Imaging for Structural Heart Disease Interventions
   Author(s): John D. Carroll, MD
   Publisher: Cardiac Interventions Today, May/June 2008

7. Real-Time 3-Dimensional Transesophageal Echocardiography During Left Atrial Radiofreqency Catheter Ablation for Atrial Fibrillation
   Author(s): G Burkhard Mackensen, MD, PhD; Donald Hegland, MD; Danny Rivera, RCS; David B Adams, RCS, RDCS; Tristran D Bahsson, MD
   Publisher: Circulation Cardiovascular Imaging 2008; doi:10.1161/circimaging.107.63128

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, PhD; 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, PhD; Roberto M. Lang, MD
   Publisher: Journal of the American Society of Echocardiography, Volume 21 Number 9

   Author(s): Brian D. Soriano, Martin Hoch, Alejandro Ithurralde, Tai 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

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

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

Standard Values for Real-Time Transesophageal 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
Publisher: Journal of the American Society of Echocardiography, November 2008

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

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 Sterribger-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

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

Author(s): Lawrence D Jacob, Ivan S Salgo, Sascha Goonenwardena, Lynn Weinert, Patrick Coon, Dianna Bardo, Olivier Gerard, Pascal Allain, Jose L Zamorano, Leopoldo P de Isla, Victor Mor-Avi, Roberto M Lang

3D for Global Function

   Author(s): Masaaki Takeuchi, MD; Tomoko Nishikage, BS; Victor Mor-Avi, PhD; Lissa Sugeng, MD; Lynn Weinert, BS; Hiromi 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

   Author(s): Brian D. Soriano, Martin Hoch, Alejandro Ithurralde, Tai 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

3. Three-Dimensional Transesophageal 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, PhD; Roberto M. Lang, MD
   Publisher: Journal of the American Society of Echocardiography, Volume 21 Number 9

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; 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: Journal of Cardiovascular Electrophysiology, Vol. 19, No. 4, April 2008 pp 39–399
Regurgitation and Mitral Valve Prolapse

A Comparison with 2-Dimensional Transesophageal Echocardiography for the Preoperative Functional Assessment of Patients with Mitral Valve Prolapse: Echocardiography

Functional Versus Organic Mitral Regurgitation Using Real-time Three-dimensional Electrogram-Based Method for Optimizing Cardiac Resynchronization Therapy

Myocardial Perfusion Single Photon Emission Computed Tomography

Left Ventricular Dyssynchrony: A Comparison Study with Phase Analysis of Gated

Electrogram-Based Method for Optimizing Cardiac Resynchronization Therapy

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

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

Quantification of Aortic Valve Area Using Three-Dimensional Echocardiography

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

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

The Reassuring of aortic valve area in aortic stenosis by continuity equation: a novel approach using real-time three-dimensional echocardiography

3D for Pediatric Patients

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

Early Experience with a Miniaturized Three Dimensional Matrix Transducer in Children

Three-Dimensional Echocardiography in Congenital Heart Disease

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

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

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

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

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