METHODIST DEBAKEY CARDIOVASCULAR JOURNAL

Interatrial Septum Assessment Part 2: Sinus Venosus Defects

MULTIMEDIA

ALICIA RANGOSCH, ACS, RCCS, RDCS, RVT
VALERIA E. DUARTE, MD, MPH
MIGUEL A. QUIÑONES, MD

*Author affiliations can be found in the back matter of this article

ABSTRACT

This 11-minute video aims at improving skills for the structural assessment of sinus venosus defects using 2-dimensional transthoracic echocardiography (TTE) to increase the ability to diagnose—or rule out—the different types of interatrial communications. Of the five types of lesions, this video focuses on superior and inferior sinus venosus defects. This is the second video in our MicroLearning Video Series, designed to help a target audience of sonographers, general cardiologists, general practitioners who want to gain knowledge on fundamental cardiology, and technicians. View the video at https://vimeo.com/1153585209.

CORRESPONDING AUTHOR:
Alicia Rangosch, ACS, RCCS, RDCS, RVT
Houston Methodist Adult Congenital Heart Program, Houston Methodist Hospital, Houston, Texas, United States
amrangosch@houstonmethodist.org

KEYWORDS:
Transthoracic echocardiogram (TTE); interatrial septum assessment; sinus venosus defects; adult congenital heart disease (ACHD)

TO CITE THIS ARTICLE:
Rangosch A, Duarte VE, Quiñones MA. Interatrial Septum Assessment Part 2: Sinus Venosus Defects. Methodist DeBakey Cardiovasc J. 2026;22(1):1-3. doi: 10.14797/mdcvj.1778

Video 1 This 11-minute video aims at improving skills for the structural assessment of sinus venosus defects using 2D transthoracic echocardiography, with a focus on both superior and inferior sinus venosus defects. View it at https://vimeo.com/1153585209.

OVERVIEW

With a focus on assessing sinus venosus defects, echocardiography educator Alicia Rangosch at Houston Methodist's Adult Congenital Heart Program reviews the preferred echocardiographic windows, views, and sweeps using a simulator to show the cardiac structures in a 3-dimensional (3D) model (Video 1). Simultaneously, we show the 2D images produced in the ultrasound machine as the transducer is manipulated. We also show examples of case studies.

This list of topics indicates the time stamp for finding the following windows and views.

INTRODUCTION (0:07)
Superior Sinus Venosus Defects Overview (0:20)

ASSESSING SUPERIOR SINUS VENOSUS DEFECTS USING TTE (1:12)
Case 1: Unrepaired Secundum ASD in childhood, with severe PAH in adulthood (1:35)
Left Parasternal Long Axis View (1:50)
Right Ventricle Outflow Tract View (2:27)
Parasternal Short Axis (PSAX) View (2:57)
Apical 4-Chamber View (3:41)
Apical 5-Chamber View (4:03)
Apical RV Oblique View (4:24)

SUBCOSTAL WINDOW (5:54)
Subcostal 4-Chamber View at 3 o'clock (6:14)
Subcostal Bicaval View at 11 o'clock (6:45)

RIGHT PARASTERNAL WINDOW (7:29)
Right Parasternal Border at 11–12 o'clock (7:49)
Case 2: Superior Sinus Venosus Defect in a Complex Case (8:03)
Agitated Saline (8:40)

INFERIOR SINUS VENOSUS DEFECT (8:56)
Parasternal Long Axis View (9:10)
Parasternal Short Axis View (9:30)
Apical Views (9:42)
Subcostal Window (10:15)
Right Parasternal View (10:31)

CONCLUSION (10:49)

COMPETING INTERESTS

The authors have no competing interests to declare.

AUTHOR AFFILIATIONS

Alicia Rangosch, ACS, RCCS, RDCS, RVT orcid.org/0009-0007-2476-4936
Houston Methodist Adult Congenital Heart Program, Houston Methodist Hospital, Houston, Texas, United States

Valeria E. Duarte, MD, MPH orcid.org/0000-0001-6616-5412
Houston Methodist DeBakey Heart & Vascular Center, Houston, Texas, United States; Boston Children's Hospital, Harvard Medical School, Boston, Massachusetts, United States

Miguel A. Quiñones, MD
Houston Methodist DeBakey Heart & Vascular Center, Houston, Texas, United States

TO CITE THIS ARTICLE:
Rangosch A, Duarte VE, Quiñones MA. Interatrial Septum Assessment Part 2: Sinus Venosus Defects. Methodist DeBakey Cardiovasc J. 2026;22(1):1-3. doi: 10.14797/mdcvj.1778

Submitted: 29 December 2025 **Accepted:** 05 January 2026 **Published:** 13 January 2026

HOUSTON Methodist DEBAKEY HEART & VASCULAR CENTER