Webinar Q&A Highlights 17 March 2026

Challenges in CHD Precision Serial Monitoring of the RV

Thank you to everyone who submitted questions during the live session. Below is a summary of the key questions we were able to address during the webinar, with responses from our panel.

Q1. How does VentriPoint's VMS+ address inter-observer reproducibility compared with standard echocardiography?

Answer (Jim Graba & Dr. Greg Skinner):
VMS+'s knowledge-based reconstruction (KBR) approach shows strong agreement with cardiac MRI data, provided that reasonable 2D echo image quality is obtained. The system is designed to be forgiving of image limitations, such as poor quality or partial captures, and reduces variability by using consistent anatomical landmarking rather than geometric assumptions.

Dr. Skinner shared internal data demonstrating very tight inter-observer agreement between independent users, even on earlier versions of the system. The introduction of AI-assisted point placement is expected to further improve consistency by providing a refined, standardized starting point for analysis.

Q2. How does the system perform when echocardiographic image quality is suboptimal?

Answer (Dr. Greg Skinner):
Unlike live 3D/4D echo, VMS+ does not require all cardiac structures to be visualized from a single perfect window. Instead, users acquire multiple optimized 2D views, each focused on specific anatomical structures (e.g., tricuspid valve, pulmonary valve, RV free wall).

This "multiple bites of the cherry" approach allows clinicians to compensate for suboptimal windows by tailoring each acquisition to the structure of interest. While studies cannot be performed if *no* usable windows are available, the VMS+ system is surprisingly tolerant of real-world imaging challenges.

Q3. Can VMS+ be used with 3D echocardiography data?

Answer (Jim Graba):
Yes. VMS+ can work with 3D echo datasets if the acquisition clearly visualizes key structures such as the tricuspid and pulmonary valves. The system requires a single whole heart scan. From this VMS+ can quantify all four chambers.

However, analysing the large 3D datasets can be more time-consuming than standard 2D echo process. In practice, many users find that optimized 2D imaging combined with VMS+'s reconstruction workflow is often faster and more efficient than relying on 3D echo alone.

An additional benefit of VMS+ with 3D echo is that the system can process existing datasets without the need for a specific scan using the VMS+ system.

Q4. How much additional time does VMS+ add to a standard echocardiography study?

Answer (Jim Graba):
The image acquisition time is unchanged, as scans are performed as part of a routine echo. The additional analysis time is typically **around 5–7 minutes**, depending on the number of chambers being measured. AI-assisted point placement significantly reduces post-processing time.

Q5. How well does the system work in young children or patients who move during scanning?

Answer (Dr. Greg Skinner):
As with most imaging modalities, VMS+ performs best when patients are relatively still. It is not well-suited for uncooperative or distressed toddlers. However, it works very well in:

- Sedated or ventilated infants in critical care
- Children typically aged four years and older

For younger children who cannot breath-hold, free breathing is often preferable. While respiratory motion may slightly affect visual overlay alignment, volumetric measurements remain reliable—particularly when used for **serial monitoring**, where trends over time are most important.

Q6. What is the purpose of the two sensors used with the VentriPoint's VMS+ system?

Answer (Jim Graba):
The probe sensor tracks the **3D position and orientation of the ultrasound transducer** during image acquisition, while the patient sensor provides a reference frame. Together, they allow the system to accurately map how each 2D image slice relates spatially to the others, enabling precise 3D reconstruction of cardiac chambers from standard 2D echocardiographic views.