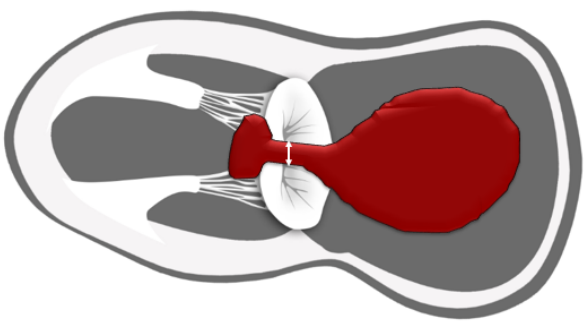
CARDIOSERV
INSPIRING EXCELLENCE IN IMAGING

FIVE THINGS TO KNOW ABOUT

SECONDARY MR VENA CAVA WIDTH

1



VENA CONTRACTA

The Vena Contracta is the narrowest portion of the MR jet. The cross-sectional area (when circular) directly represents the MR orifice area which is a true parameter of MR severity.

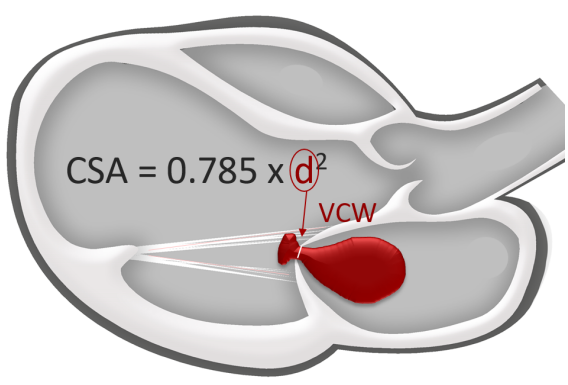
2

CROSS SECTIONAL AREA (CSA)

The CSA formula assumes a circular shape

$$CSA = 0.785 \times d^2$$

d = Vena Contracta Width, obtained in parasternal long-axis as an A-P measurement (anterior-Posterior)



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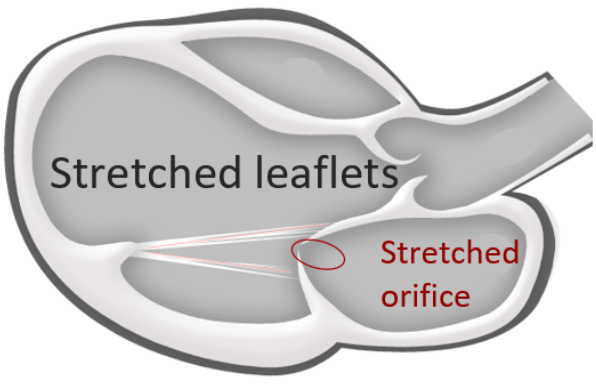


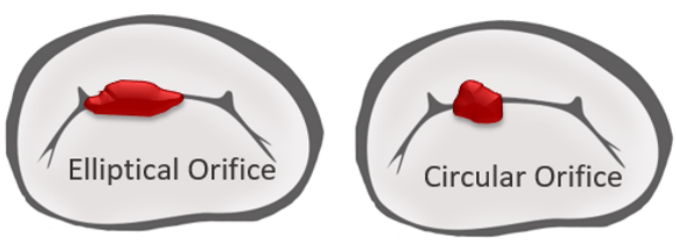
SECONDARY MR

Secondary Mitral Regurgitation is caused by LV dysfunction (ischemic cardiomyopathy) causing tethered leaflets & dilated annulus which stretches the mitral valve leaflets.

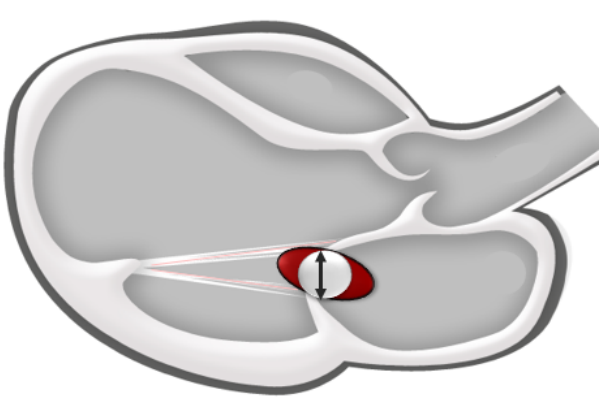
4

ELLIPTICAL ORIFICE

The stretching of the mitral valve leaflets during secondary MR often creates an elliptical MR orifice, unlike the circular orifice seen in primary MR.



5



UNDERESTIMATED MR SEVERITY

The PLAX AP measurement of the VCW does not reflect the largest diameter of the stretched out elliptical orifice seen in secondary MR. The elliptical orifice has the same diameter as a circle but a larger area.
Result: Underestimated VCW = underestimate CSA = underestimated EROA = underestimated severity

SECONDARY MR ELLIPTICAL ORIFICE UNDERSTIMATED MR

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