

#### CONTRAST DOPPLER ECHOCARDIOGRAPHY

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Both pulsed Doppler and contrast echocardiography are well established ultrasonic methods evaluating the characteristics of blood flow within the heart and great vessels.

Recently, pulsed Doppler has been demonstrated to be more sensitive in detecting microbubbles than the conventional M-mode technique. It is also our experience that the microbubbles passing through the Doppler sample volume modify Doppler output in the following characteristic way:

1/ An audible Doppler flow signal is altered to a high-pitched "crackling" sound whenever the microbubbles are acting as an ultrasonic reflector. 2/ Spectral dispersion /turbulence pattern/ and a marked rise in the Doppler signal strength indicator occur on the graphical Doppler display.

The combined technique was employed for detecting:  
A. tricuspid regurgitation /15 pts./ and B. atrial septal defects /ASD/ with left-to-right shunts /10 pts./. In the left-to-right shunts in ASD the contrast Doppler findings are based upon the hypothesis that a small amount of contrast passes through the defect to the left atrium. The results of the investigation yielded much more impressive findings than those of contrast or Doppler examinations alone. Therefore, we recommend it for routine use in echocardiographic practice.