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## In Vivo Evidence that Palmaz-Schatz Stents do not Recoil Immediately Following Deployment

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Although coronary artery stents may appear to be adequately deployed following high pressure balloon inflations, intravascular ultrasound (IVUS) imaging frequently demonstrates a lumen cross sectional area (CSA) that is smaller than expected for the chosen balloon size. To determine whether Palmaz-Schatz stents recoil immediately after deployment, a new 0.018" IVUS imaging wire from Cardiovascular Imaging Systems, Inc. was used to obtain images during and after placement of 8 coronary stents. IVUS at the stent site was performed during stent balloon inflation at 4 atm, 10 atm, and after balloon deflation. The mean inflation pressure was  $18.5 \pm 2.5$  atm. Imaging could not be performed consistently at higher inflation pressures due to impingement of the wire lumen. Stent lumen CSA, minor diameter, and major diameter at the different intervals are shown below.

IVUS measurement	4 atm	10 atm	After deflation
Lumen CSA (mm <sup>2</sup> )	$4.4 \pm 1.6$	$6.9 \pm 4.0$	$6.7 \pm 2.5$
Minor diameter (mm)	$2.3 \pm 0.4$	$2.8 \pm 1.1$	$2.9 \pm 0.5$
Major diameter (mm)	$2.4 \pm 0.6$	$3.1 \pm 0.9$	$2.9 \pm 0.5$

This preliminary in vivo evaluation of a new IVUS imaging coronary wire demonstrates that there is no stent recoil after deflation from 10 atm pressures. The use of this imaging wire may have important applications for guiding interventional procedures.