

**Supplemental Table 1:** cTn methods and reference limits used at the local sites at time of study enrollment.

<b>Site</b>	<b>Assay</b>	<b>Local reference limit</b>
Kaiser Permanente	Beckman Tnl	<0.04 ng/mL
University of Maryland	Beckman Tnl	<0.07 ng/mL
Washington University	Beckman Tnl	<0.07 ng/mL
Tufts University	Alere Tnl	<0.40 ng/mL
Baystate Medical Center	Roche TnT	<0.03 ng/mL
Massachusetts General Hospital	Roche TnT	<0.03 ng/mL

**Supplemental Table 2:** Comparison of sensitivity between cTn, sTnl, and hsTnl at baseline, second, and third draws. Both sTnl and hsTnl were more sensitive than local cTn at the first and second draws for A) ACS as well as B) UAP.

**A)**

<b>Time point</b>	<b>Comparison</b>	<b>P value</b>
Baseline	cTn vs sTnl	<0.001
Baseline	cTn vs hsTnl	<0.001
Second draw	cTn vs sTnl	<0.001
Second draw	cTn vs hsTnl	<0.001
Third draw	cTn vs sTnl	0.18
Third draw	cTn vs hsTnl	0.18

**B)**

<b>Time point</b>	<b>Comparison</b>	<b>P value</b>
Baseline	cTn vs sTnl	0.01
Baseline	cTn vs hsTnl	0.01
Second draw	cTn vs sTnl	0.03
Second draw	cTn vs hsTnl	0.03
Third draw	cTn vs sTnl	0.32
Third draw	cTn vs hsTnl	0.32

**Supplemental Table 3:** Associations between concentrations of A) sTnI and B) hsTnI and presence or extent of epicardial CAD and coronary artery calcium in patients undergoing CTA considered as a function of the 99<sup>th</sup> percentile. Using this approach, a significantly number of subjects with CAD would be missed with either method.

**A) sTnI**

	<b>sTnI &lt;99<sup>th</sup> percentile</b>	<b>sTnI ≥99<sup>th</sup> percentile</b>	<b>P value</b>
Calcium score, median [IQR]	0 [0-27]	213 [38-521]	<0.001
Any CAD	55.3%	90.0%	0.05
Stenosis >50%	18.7%	80.0%	<0.001
Stenosis >70%	12.0%	70.0%	<0.001

**B) hsTnI**

	<b>hsTnI &lt;99<sup>th</sup> percentile</b>	<b>hsTnI ≥99<sup>th</sup> percentile</b>	<b>P value</b>
Calcium score, median [IQR]	0 [0-28]	111 [1.6-480]	0.003
Any CAD	55.4%	83.3%	0.07
Stenosis >50%	18.2%	75.0%	<0.001
Stenosis >70%	12.2%	58.3%	<0.001