Interpretation of hscTnI Delta Results

When the hscTnI series for acute chest pain is ordered "delta" values and an interpretation of insignificant, equivocal or significant delta will be reported for the 2, 4 and 6 hour samples as summarized in this Table.

cTnI at 0 h (baseline)	Interval (h)	Delta cTnI		
		Insignificant	Equivocal	Significant
< 100 ng/L	2	< 5 ng/L	5-9 ng/L	≥10 ng/L
	4		5-14 ng/L	≥15 ng/L
	6		5-19 ng/L	≥20 ng/L
Delta = Change in absolute value				
cTnI at 0 h	Interval	Insignificant	Equivocal	Significant
≥ 100 ng/L	2	< 5 %	5-9 %	≥10 %
	4		5-14 %	≥15 %
	6		5-19 %	≥20 %
Delta = Percentage change from baseline				

The following *italicized comments* are intended to provide further guidance and interpretation of high sensitivity cardiac troponin I for specific results and deltas when following the serial testing algorithm for patients presenting with acute chest pain.

Baseline/Time 0 Sample

If > 200 ng/L

> *Initial value > 200 ng/L has a 70% positive predictive value for MI in patients with high clinical risk*.

If < 5 ng/L

> *Low risk for myocardial infarction in patients with low clinical risk and symptoms > 2 hrs. Consider other causes of chest pain.*

2 Hour Sample

Delta Result

If baseline and 2 hr cTnI result < 35 ng/L (male) or < 17 ng/L (female):

and Delta < 5 ng/L reported as **Insignificant**

Low risk for myocardial infarction in patients with low clinical risk and symptoms > 4 hrs. Consider other causes of chest pain

and Delta is 5 – 9 ng/L reported as **Equivocal**

Indeterminate delta, consider 4 hr" sample.

and Delta is ≥ 10 ng/L reported as **Significant**

Consider 4 hr sample.

If baseline result 35 – 100 ng/L (male) 17 – 100 ng/L (female):

and Delta < 5 ng/L reported as **Insignificant**

Low risk for myocardial infarction in patients with low clinical risk and symptoms > 4 hrs. May indicate non-ischemic cardiac injury. Consider future cardiac evaluation.

and Delta is 5 – 9 ng/L reported as **Equivocal**

I*ndeterminate delta, retest at 4 hrs.*

and Delta is > 10 ng/L reported as **Significant**

High risk of acute cardiac injury.

If baseline cTnI result > 100 ng/L (male or female):

and Delta < 5% reported as **Insignificant**

Low risk for myocardial infarction in patients with low clinical risk and symptoms > 4 hrs. May indicate non-ischemic cardiac injury. Consider future cardiac evaluation.

and Delta is 5 – 9% reported as **Equivocal**

I*ndeterminate delta, may indicate non-ischemic cardiac injury. Consider 4 hr sample.*

and Delta is > 10% reported as **Significant**

High risk of acute cardiac injury.

4 Hour Sample

Delta Result

If baseline and 4 hr cTnI result < 35 ng/L (male) or < 17 ng/L (female):

and Delta < 5 reported as **Insignificant**

Low risk for myocardial infarction in patients with low risk score and symptoms > 6 hrs. Consider other causes of chest pain.

and Delta is 5 – 14 reported as **Equivocal**

Indeterminate delta, consider 6 hr sample.

and Delta is ≥ 15 reported as **Significant**

Risk of acute cardiac injury, consider 6 hr sample.

If baseline result 35 – 100 ng/L (male) 17 – 100 ng/L (female):

and Delta < 5 ng/L reported as **Insignificant**

Low risk for myocardial infarction in patients with low risk score and symptoms > 6 hrs. May indicate non-ischemic cardiac injury. Consider future cardiac evaluation.

and Delta is 5 – 14 ng/L report as **Equivocal**

I*ndeterminate delta, may indicate non-ischemic cardiac injury. Consider 6 hr sample.*

and Delta is ≥ 15 ng/L reported as **Significant**

High risk of acute cardiac injury.

If baseline cTnI result > 100 (male or female):

and Delta < 5% reported as **Insignificant**

Low risk for myocardial infarction in patients with low risk score and symptoms > 6 hrs. May indicate non-ischemic cardiac injury. Consider other causes of chest pain.

and Delta is 5 – 14% reported as **Equivocal**

I*ndeterminate delta, may indicate non-ischemic cardiac injury. Consider 6 hr sample.*

and Delta is ≥ 15% reported as **Significant**

High risk of acute cardiac injury.

6 Hour Sample

Delta Result

If baseline and 2 and/or 4 hr cTnI result < 35 ng/L (male) or < 17 ng/L (female): (Note: this scenario should be exceedingly rare)

Delta < 5 ng/L reported as **Insignificant**

Low risk for myocardial infarction in patients with low risk score and symptoms > 8 hrs. Consider other causes of chest pain".

and Delta is 5 – 19 ng/L reported as **Equivocal**

Indeterminate delta

and Delta is ≥ 20 ng/L reported as **Significant**

R*isk of acute cardiac injury, observe.*

If baseline result 35 – 100 ng/L (male) 17 – 100 ng/L (female):

and Delta < 5 reported as **Insignificant** and add interpretive comment – *Low risk for myocardial infarction in patients with low clinical risk and symptoms > 8 hrs*. *May indicate non-ischemic cardiac injury. Consider other causes of chest pain".*

and Delta is 5 – 19 report as **Equivocal** and add interpretive comment – "*Indeterminate delta, may indicate non-ischemic cardiac injury. Consider future cardiac evaluation."*

and Delta is ≥ 20 report as **Significant** and add interpretive comment – "*High risk of acute cardiac injury."*

If baseline cTnI result > 100 ng/L (male or female):

and Delta < 5% report as **Insignificant**

L*ow risk for acute myocardial infarction in patients with low clinical risk and symptoms > 8 hrs*. *May indicate non-ischemic cardiac injury. Consider other causes of chest pain.*

and Delta is 5 – 19% reported as **Equivocal**

Indeterminate delta, may indicate non-ischemic cardiac injury. Consider future cardiac evaluation.

and Delta is ≥ 20% reported as **Significant**

High risk of acute cardiac injury.