The 99th Percentile Value is Universally Endorsed as the Reference Cut-off to Aid in the Diagnosis of Acute Myocardial Infarction (AMI)¹

Key Components to Implement High-Sensitivity Cardiac Troponin (hs-cTn) Assays In Practice

• 99th percentile should be determined in a healthy population¹,²
• 99th percentile from either peer-reviewed literature or from manufacturers’ product information are acceptable
• 99th percentile for hs-cTn assays should be measured with an analytical imprecision of ≤ 10% (% CV; coefficient of variation)¹,²
• hs-assays should measure cTn above the limit of detection in ≥ 50% of healthy subjects²,³,⁴
IMPLEMENITING HIGH-SENSITIVITY CARDIAC TROPONIN ASSAYS IN PRACTICE

Factors That May Influence hs-cTn Assay 99th Percentile
Age – cTn increases with increasing age, especially above 60 y²
Gender – Men have higher values than women³,⁴,⁶
Assay Method – The 99th percentile should be determined for each assay, as assays are not standardized
Specimen Type – The 99th percentile should be determined for serum, plasma and/or whole blood.

99th Percentile Values Should be Established or Confirmed
With the appropriate statistical power for each gender (men and women):
• Using a minimum 300 male and 300 female subjects (by gender) if establishing 99th percentiles³
• Using a minimum of 20 subjects if confirming 99th percentiles³
With an appropriate 1-tailed nonparametric statistical method²

References