

## Appendix: Can emergency physicians ‘rule in’ and ‘rule out’ acute myocardial infarction with clinical judgement?

Table 1A: Diagnostic performance for gestalt alone at every threshold for diagnosing AMI

Strategy	Sensitivity	Specificity	PPV	NPV
Only patients with ‘definitely not’ ACS discharged	<b>100.0</b> (95.6 – 100.0)	<b>2.9</b> (1.5 – 5.2)	<b>18.1</b> (14.7 – 22.0)	<b>100.0</b> (71.5 – 100.0)
Only patients with ‘definitely not’ or ‘probably not’ ACS discharged	<b>95.1</b> (87.8 – 98.6)	<b>31.8</b> (27.2 – 36.8)	<b>23.1</b> (18.6 – 28.0)	<b>96.8</b> (91.9 – 99.1)
Patients with ‘definitely not’, ‘probably not’ or ‘could be’ ACS discharged	<b>71.6</b> (60.5 – 81.1)	<b>69.2</b> (64.3 – 73.9)	<b>33.3</b> (26.4 – 40.9)	<b>91.9</b> (88.1 – 94.8)
Only patients with ‘definite ACS’ admitted (all others discharged)	<b>33.3</b> (23.2 – 44.7)	<b>93.1</b> (90.1 – 95.5)	<b>50.9</b> (36.8 – 64.9)	<b>86.7</b> (83.0 – 89.8)

Table 1B: Diagnostic performance for gestalt alone at every threshold for predicting any major adverse cardiac event (MACE) within 30 days

Strategy	Sensitivity	Specificity	PPV	NPV
Only patients with ‘definitely not’ ACS discharged	<b>99.0</b> (94.6 – 100.0)	<b>2.8</b> (1.4 – 5.1)	<b>22.2</b> (18.4 – 26.3)	<b>90.9</b> (58.7 – 99.8)
Only patients with ‘definitely not’ or ‘probably not’ ACS discharged	<b>93.0</b> (86.1 – 97.1)	<b>32.7</b> (27.8 – 37.8)	<b>27.8</b> (23.1 – 33.0)	<b>94.4</b> (88.7 – 97.7)
Patients with ‘definitely not’, ‘probably not’ or ‘could be’ ACS discharged	<b>68.0</b> (57.9 – 77.0)	<b>70.4</b> (65.4 – 75.1)	<b>39.1</b> (31.8 – 46.8)	<b>88.7</b> (84.5 – 92.2)
Only patients with ‘definite ACS’ admitted (all others discharged)	<b>28.0</b> (19.5 – 37.9)	<b>93.0</b> (89.9 – 95.4)	<b>52.8</b> (38.5 – 66.8)	<b>82.2</b> (78.1 – 85.8)

Table 2A: Diagnostic performance of gestalt in combination with troponin and the ECG at every gestalt threshold for diagnosing AMI

<b>Strategy</b>	<b>Sensitivity</b>	<b>Specificity</b>	<b>PPV</b>	<b>NPV</b>
Only patients with normal initial troponin, no ECG ischaemia and 'definitely not' ACS discharged	<b>100.0</b> (95.6 – 100.0)	<b>2.1</b> (0.9 – 4.1)	<b>18.0</b> (14.6 – 21.9)	<b>100.0</b> (63.1 – 100.0)
Only patients with normal initial troponin, no ECG ischaemia and 'definitely not' or 'probably not' ACS discharged	<b>100.0</b> (95.6 – 100.0)	<b>28.1</b> (23.6 – 33.0)	<b>23.0</b> (18.7 – 27.8)	<b>100.0</b> (96.6 – 100.0)
Patients with normal initial troponin, no ECG ischaemia and 'definitely not', 'probably not' or 'could be' ACS discharged	<b>95.1</b> (87.8 – 98.6)	<b>56.8</b> (51.6 – 61.8)	<b>32.1</b> (26.2 – 38.4)	<b>98.2</b> (95.4 – 99.5)
Only patients with normal initial troponin, no ECG ischaemia and anything other than 'definite ACS' discharged	<b>86.4</b> (77.0 – 93.0)	<b>71.4</b> (66.5 – 75.9)	<b>39.3</b> (32.1 – 46.9)	<b>96.1</b> (93.1 – 98.0)

Table 2B: Diagnostic performance of gestalt in combination with troponin and the ECG at every gestalt threshold for diagnosing MACE

<b>Strategy</b>	<b>Sensitivity</b>	<b>Specificity</b>	<b>PPV</b>	<b>NPV</b>
Only patients with normal initial troponin, no ECG ischaemia and 'definitely not' ACS discharged	<b>100.0</b> (96.4 – 100.0)	<b>2.2</b> (1.0 – 4.4)	<b>22.2</b> (18.5 – 26.4)	<b>100.0</b> (59.0 – 100.0)
Only patients with normal initial troponin, no ECG ischaemia and 'definitely not' or 'probably not' ACS discharged	<b>99.0</b> (94.6 – 100.0)	<b>29.3</b> (24.7 – 34.3)	<b>28.1</b> (23.5 – 33.1)	<b>99.1</b> (94.8 – 100.0)
Patients with normal initial troponin, no ECG ischaemia and 'definitely not', 'probably not' or 'could be' ACS discharged	<b>91.0</b> (83.6 – 95.8)	<b>58.4</b> (53.1 – 63.5)	<b>37.9</b> (31.8 – 44.4)	<b>95.9</b> (92.3 – 98.1)
Only patients with normal initial troponin, no ECG ischaemia and anything other than 'definite ACS' discharged	<b>78.1</b> (68.5 – 85.9)	<b>72.4</b> (67.4 – 76.9)	<b>43.1</b> (35.6 – 50.8)	<b>92.5</b> (88.8 – 95.3)

Table 3: Diagnostic performance of gestalt in combination with high sensitivity troponin (hs-cTnT) and the ECG at every gestalt threshold for diagnosing AMI

<b>Strategy</b>	<b>Sensitivity</b>	<b>Specificity</b>	<b>PPV</b>	<b>NPV</b>
Only patients with normal initial hs-cTnT, no ECG ischaemia and 'definitely not' ACS discharged	<b>100.0</b> (95.6 – 100.0)	<b>1.6</b> (0.6 – 3.4)	<b>17.9</b> (14.5 – 21.8)	<b>100.0</b> (54.1 – 100.0)
Only patients with normal initial hs-cTnT, no ECG ischaemia and 'definitely not' or 'probably not' ACS discharged	<b>100.0</b> (95.6 – 100.0)	<b>23.1</b> (18.9 – 27.7)	<b>21.8</b> (17.7 – 26.4)	<b>100.0</b> (95.8 – 100.0)
Patients with normal initial hs-cTnT, no ECG ischaemia and 'definitely not', 'probably not' or 'could be' ACS discharged	<b>100.0</b> (95.6 – 100.0)	<b>45.6</b> (40.5 – 50.8)	<b>28.3</b> (23.2 – 33.9)	<b>100.0</b> (97.9 – 100.0)
Only patients with normal initial hs-cTnT, no ECG ischaemia and anything other than 'definite ACS' discharged	<b>97.5</b> (91.4 – 99.7)	<b>56.5</b> (51.3 – 61.6)	<b>32.5</b> (26.7 – 38.8)	<b>99.1</b> (96.7 – 99.9)