Attenuation corrected images in myocardial perfusion scintigraphy better predicts the need for a rest study than non-corrected images.

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- **Research Support ¹:** N/A
- **Consultant ²:** N/A
- **Speakers Bureau ³:** N/A
- **Honoraria and/or Stockholder ⁴:** Lars Edenbrandt and Karin Nyström are stockholders of EXINI Diagnostics

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Background

• Attenuation may create artefacts that mimic perfusion abnormalities

• Attenuation reduces laboratory efficiency by requiring comparison of stress and rest image sets to distinguish perfusion abnormalities from attenuation artefacts

• If a stress study is normal, no rest study is necessary

• Previous studies have found that AC images increased the ability to interpret studies as normal or abnormal and reduced the need for rest imaging
Purpose

• To compare the accuracy of computerized determination of the need for a rest study when using NC images or AC images
Method

- 1266 patients with 99Tc MPS during 2007
- Gold standard: Final report according to clinical routine
  - Ischemia/infarction = need for rest study
  - No ischemia/infarction = no need for rest study
- EXINI heart™ was used to interpret the AC and NC images separately
  - Normal
  - Abnormal
- AC normal stress database / NC normal stress database
Normal stress databases

Female

NC

Male

AC
## Results

<table>
<thead>
<tr>
<th></th>
<th>NC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>83%</td>
<td>86%</td>
</tr>
<tr>
<td>Specificity</td>
<td>73%</td>
<td>79%</td>
</tr>
<tr>
<td>PPV</td>
<td>52%</td>
<td>59%</td>
</tr>
<tr>
<td>NPV</td>
<td>93%</td>
<td>94%</td>
</tr>
<tr>
<td>Accuracy</td>
<td>76%</td>
<td>81%</td>
</tr>
</tbody>
</table>

McNemar analysis: $p < 0.0001$
Conclusion

• Sensitivity, specificity, PPV, NPV and accuracy increased when using AC images compared to NC images

• Computer interpretation using AC images could be of value when determining the need for a rest study