What is Scoliosis?
A 3D torso deformity characterized by lateral deviation and axial rotation of the spine. The curve is usually “S” or “C” shaped.

What is AIS?
Adolescent Idiopathic Scoliosis (AIS) is the most common type of scoliosis affecting 2-4% of the population, mainly in females. (11/age=17)

How to measure AIS?
• The Cobb angle is the standard method to measure the scoliosis. It is measured from posterior-anterior radiograph of the torso.

<table>
<thead>
<tr>
<th>Curve Type</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobb&lt;10°</td>
<td>Normal</td>
</tr>
<tr>
<td>10°&lt;=Cobb&lt;15°</td>
<td>Mild</td>
</tr>
<tr>
<td>15°&lt;=Cobb&lt;35°</td>
<td>Moderate</td>
</tr>
<tr>
<td>35°&lt;=Cobb</td>
<td>Severe</td>
</tr>
</tbody>
</table>

X Ray X-rays increase the risk of cancer because of harmful radiation.

Conclusion
By using the new method:
• 13 out of 49 patients (26.5%) initially had these problems and all of them were solved by the modification.
• Color patches can be perfectly isolated with no extension in areas corresponding to other curves.
• Data noise near the armpits no longer has an effect on the asymmetry parameters.
• This improvement represents a final step towards full automation of the method.

Future Research
Creating more accurate classification tree for diagnosing AIS and for detecting scoliosis progression by using marker-less surface topography asymmetry analysis.

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References