

# The Imaging Diagnosis and Monitoring of Children with Idiopathic Scoliosis

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## Introduction

- Scoliosis is caused by the sideways curvature of the spine.
- Idiopathic scoliosis is the most common type and has no clear cause.
- Adolescent idiopathic scoliosis (AIS) affects 2-3% of people, mostly girls.
- ID can be hereditary if both parents have the genes but not in all cases.

## Statistics

- 268,372 patients have been diagnosed with ID.
- ID is accounted for over 80% of cases.
- Females are 1.44 times more likely to have ID than males.
- AIS incidence rates in children aged 0-2, 3-9, and 15-19 are 0.709%, and 10-14 are 0.821%.
- Males and females who live in urban areas have higher incidences than rural areas.
- The prevalence of AIS with a Cobb angle (severity) above 10 degrees varies from 0.93 to 12% worldwide.

## Risk Factors

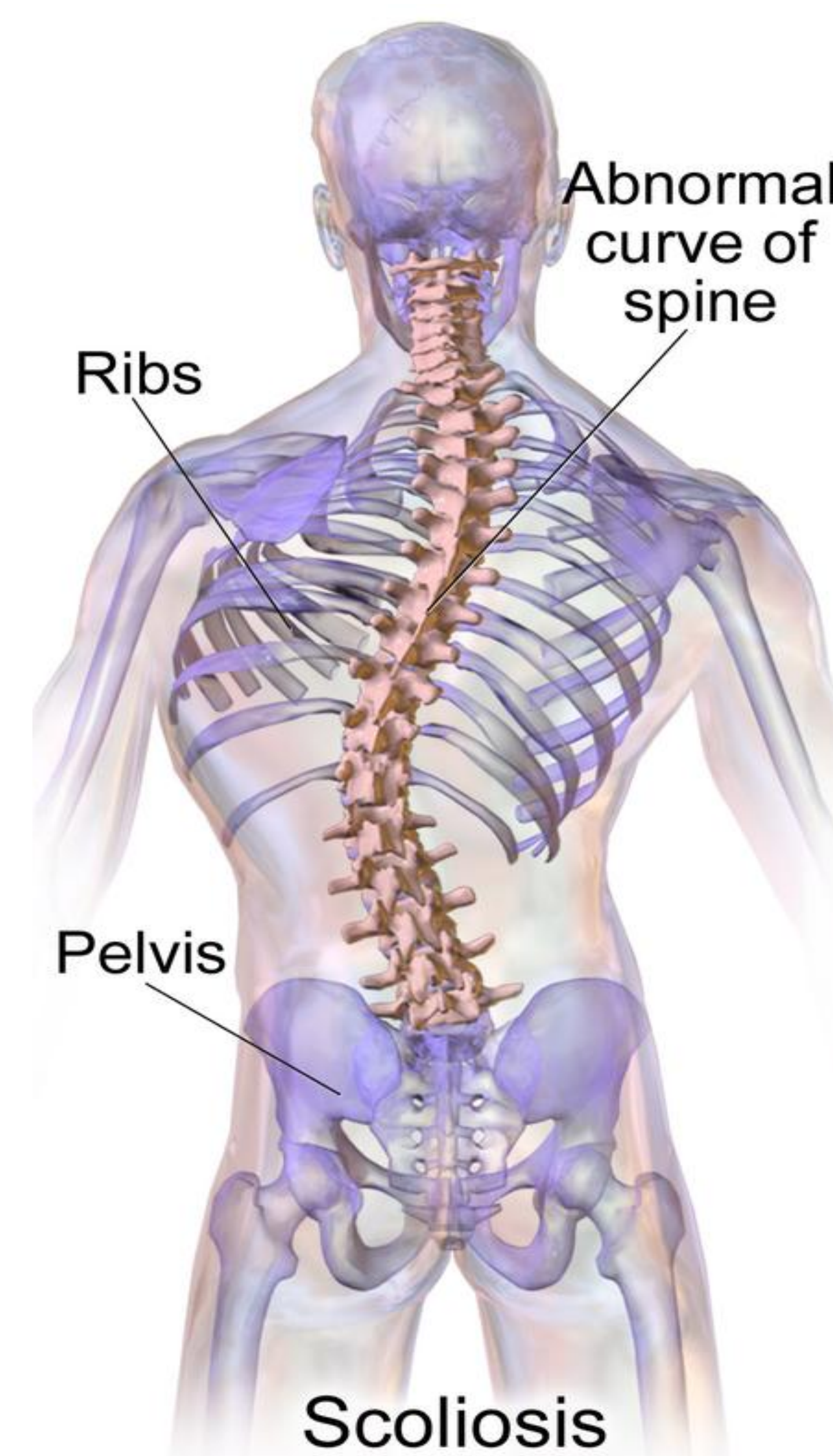
- Factors that are related to the onset of ID are heavy backpacks, environmental factors, posture disorders, visual and dental disorders, and high-risk sports
- Age is a factor because of puberty.
- Gender is a risk factor because ID affects more girls than boys.
- Most children with ID do not have a parent with ID but if the child's parents have scoliosis, it's more of a risk for the child.

## Signs/Symptoms

- Symptoms vary; some children show signs while others don't until examined.
- Common signs include uneven shoulders, uneven waist, uneven hips, ribs may be more prominent on one side, and one shoulder blade may protrude more than the other.
- Progressing may include: the head not being centered, rib cage arching, uneven eyeline, and arms and legs of different lengths.
- Neuromuscular diseases, congenital diseases, and family history can also contribute to scoliosis.

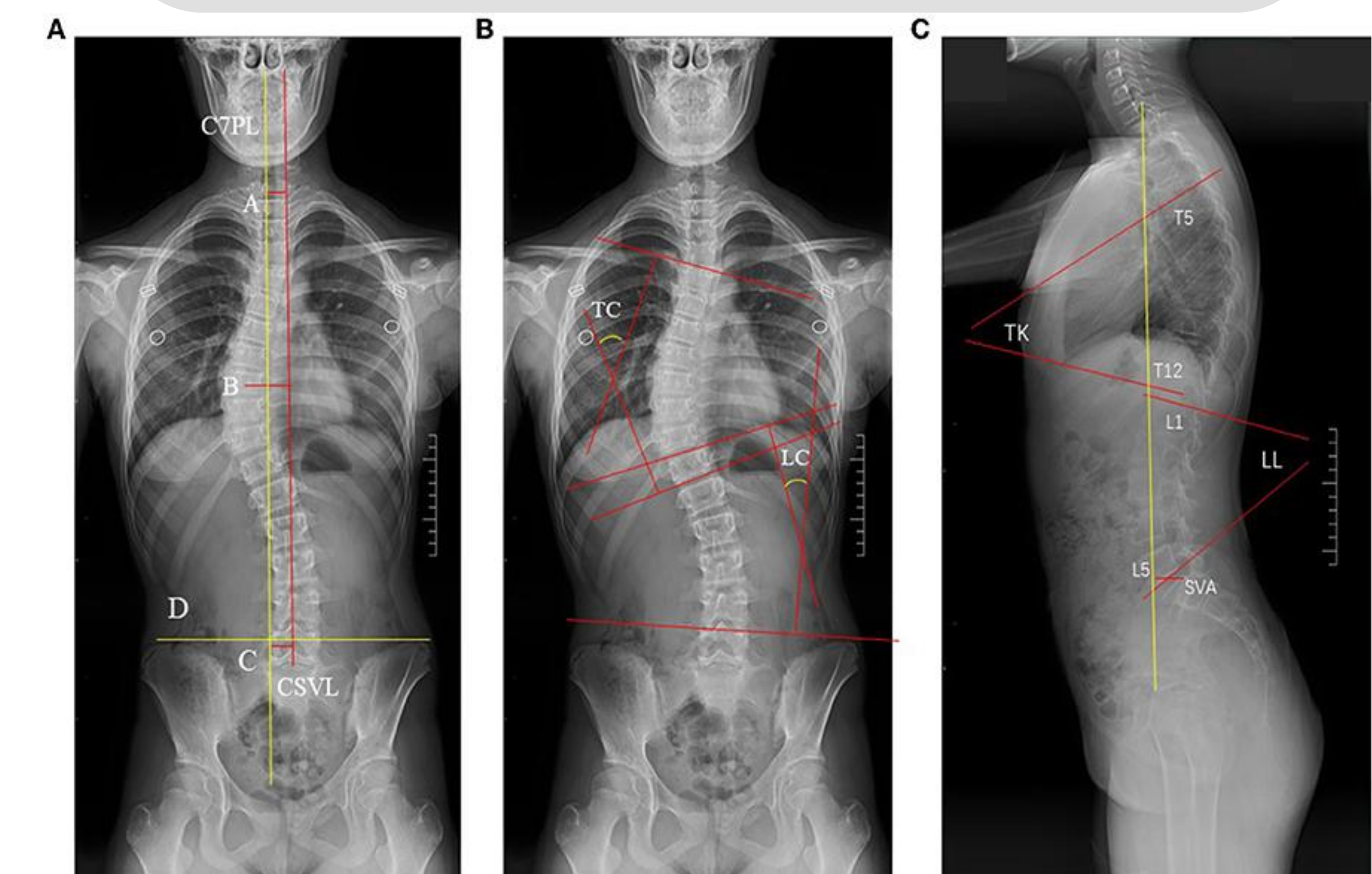
## Conclusion

- ID is a complex spinal condition that mainly affects children.
- Although there is an unknown cause, genetic factors play a role.
- Imaging in early stages help determine the next steps.
- Living with ID can be challenging but with correct observation, anyone can have a good quality of life.



## Imaging/Treatment

- X-rays help the doctor see balance, rotation, spine alignment and other related issues.
- Treatment looks different depending on the severity of the spine.
- Some may need surgery (45 degrees or more).
- Others will be closely monitored while wearing a brace daily.



## References

- [Signs of Scoliosis: How to Identify Spinal Curvature](#)
- [Incidence and Surgery Rate of Idiopathic Scoliosis: A Nationwide Database Study – PMC](#)
- [Why Is Scoliosis More Common In Females Than In Males?](#)
- [Risk Factors, Lifestyle and Prevention among Adolescents with Idiopathic Juvenile Scoliosis: A Cross Sectional Study in Eleven First-Grade Secondary Schools of Palermo Province, Italy – PMC](#)
- [Idiopathic Scoliosis | Boston Children's Hospital](#)