Effects of **Obesity** in adolescent idiopathic scoliosis (AIS)

### Radiographic measurements

- Preoperative curve magnitude
- Preoperative thoracic kyphosis
- Lumbar lordosis at first follow-up
- Minor curve magnitude at last follow-up

Reported brace compliance was similar between the groups.

### Outcomes of posterior spinal fusion in **obese** adolescents with AIS

- **Major curve magnitude**
  - (At first presentation to orthopedic surgeon)
  - Healthy weight (HW): 43.9°
  - Overweight (OW): 49.3°
  - Obese (OB): 50.4°

- **Surgical time**
  - (Posterior spinal fusion)
  - HW: 276 min
  - OW: 307 min
  - OB: 320 min

- **Postoperative complications**
  - (≥ 2-year follow-up)
  - HW: 28.3%
  - OW: 37.0%
  - OB: 47.8%

- **BMI%**
  - ≤84
  - ≥85
  - ≥95

Higher risk of postoperative complications

Larger curve magnitude

Increased surgical times

Obese adolescents should be closely monitored for scoliosis to avoid delayed diagnosis and consequent referral for surgical treatment.

Li et al. Spine. Feb 2017

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**Clinical examination findings**

- Shoulder and waistline asymmetry
- Truncal shift
- Rib prominence on Adam’s forward bend test

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**Scoliosis**

- Normal spine
- Scoliosis

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**20.5% of adolescents are obese!**

2011-2014 National Health and Nutrition Examination Survey

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588 adolescents (11-17 year olds)
496 girls  |  92 boys

454 Healthy weight (HW)
134 Overweight (OW)
71 Obese (OB)