

15-year Trend Analysis of Early Onset Idiopathic Scoliosis Surgeries

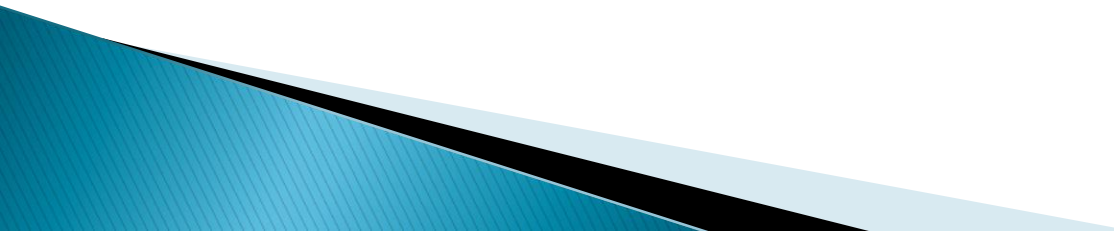
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Introduction


- ▶ Early onset idiopathic scoliosis (EOS) can cause substantial morbidity.
 - ▶ EOS may require surgical intervention.
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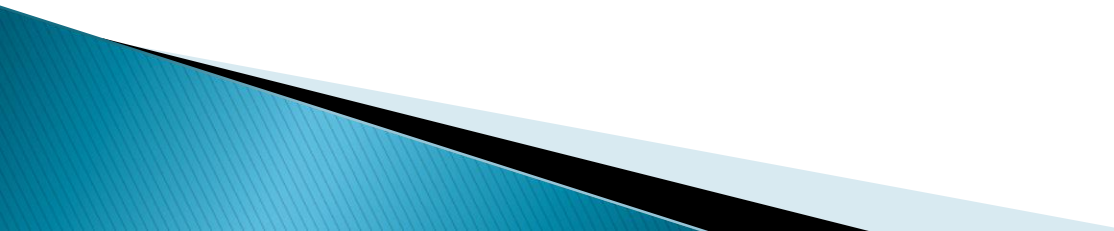
Purpose:

Evaluate US trends in early onset idiopathic scoliosis from 1997–2012 (15 years).

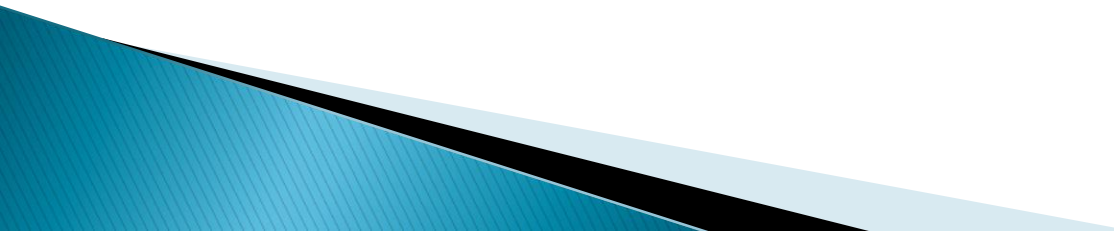
Design:

- ▶ Retrospective study of idiopathic scoliosis patients aged between 0 and <10 years old.
 - ▶ Identified by ICD–9–CM code 737.30
 - ▶ Data from Kid's Inpatient Database
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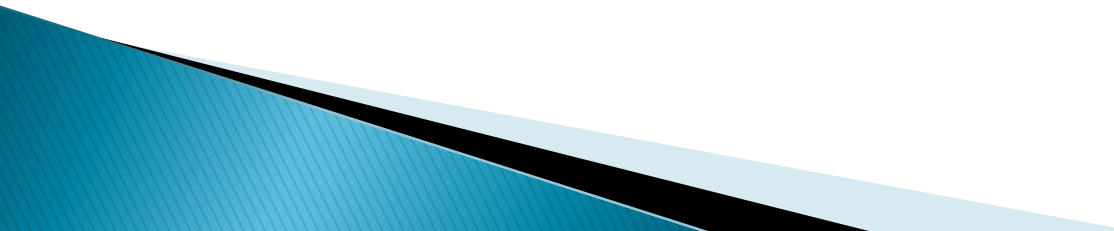
Methods

- ▶ Identified EOS surgeries:
 - Posterior
 - Anterior
 - Combined
 - ▶ Collected data on:
 - Co-morbidities
 - In-hospital complications
 - Length of hospital stay (LOS)
 - Hospital charges as per 2012 inflation
 - ▶ Analyzed data for all EOS surgery patients and separately in posterior, anterior and combined surgeries.
 - ▶ Line regression used to assess the trends.
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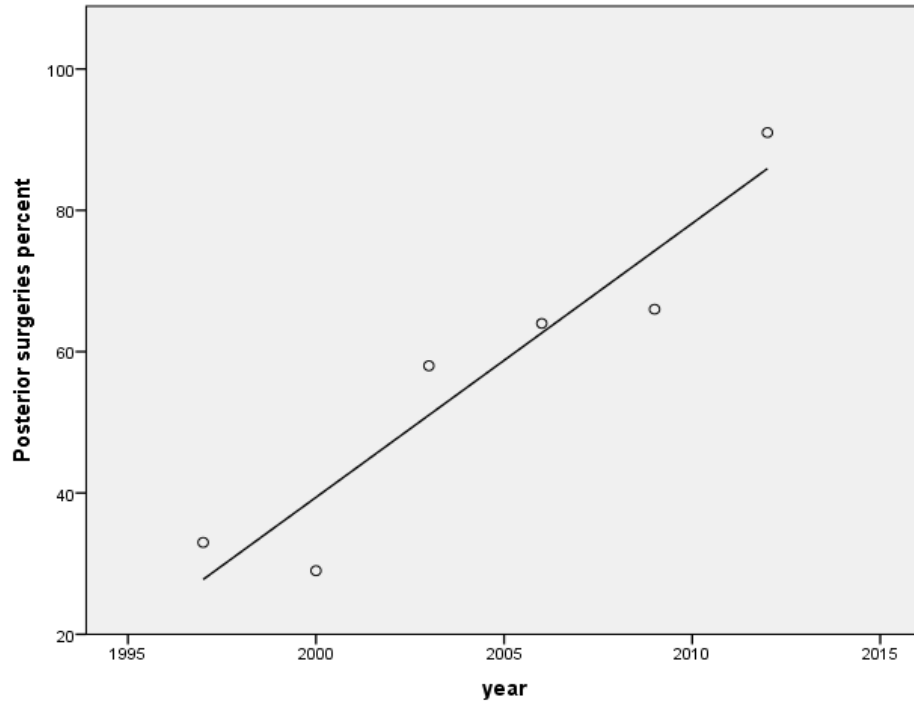
Results

- ▶ Identified 545 patients (37% male, 63% female) during 15-year study period.
- ▶ EOS surgeries:
 - Posterior = 57%
 - Anterior = 15%
 - Combined = 28%
- ▶ Mortality rate = 0.1%
- ▶ LOS had a mean of 8 days
- ▶ Co-morbidities had a mean of 5
- ▶ Complication rate had a mean of 6%
- ▶ Hospital charges (per 2012 dollars) had a mean of \$119,613
- ▶ Female gender, LOS, complications and co-morbidity rates were constant and hospital charges increased over 15 years.

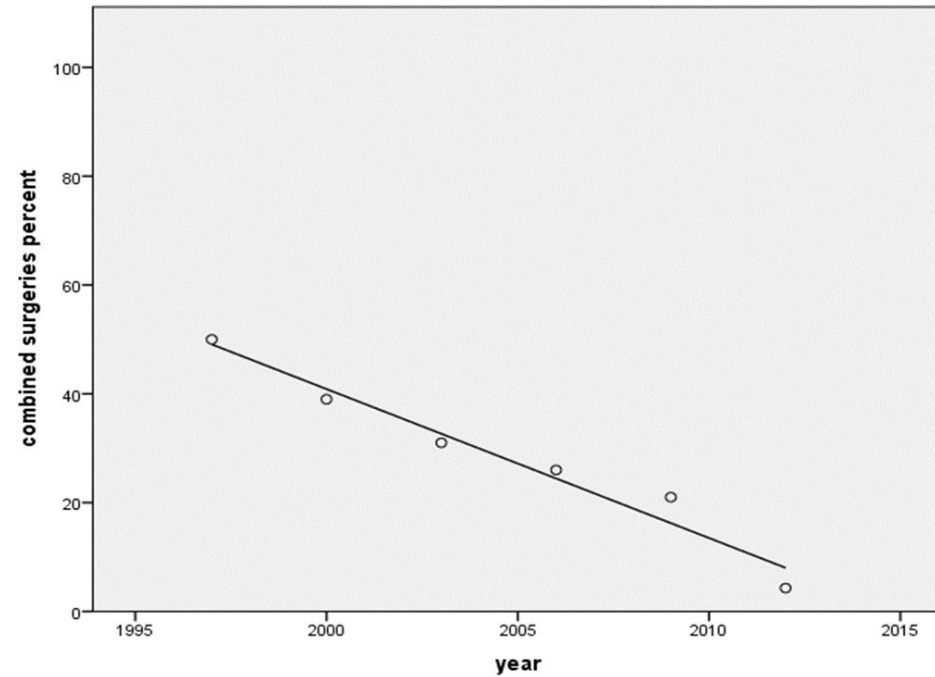
Surgery rate over 15 years

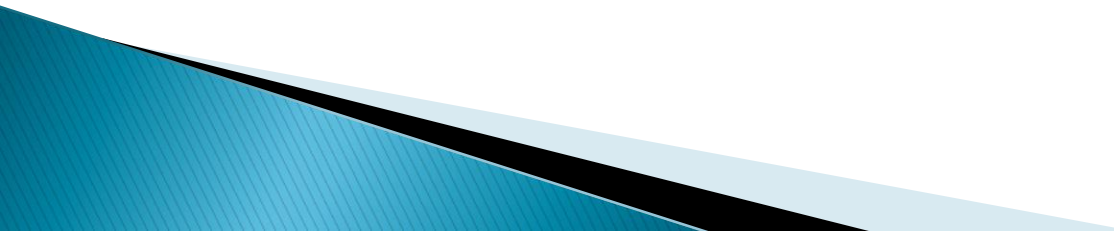
- ▶ Posterior surgery rate significantly increased
 - ▶ Combined surgery rate significantly decreased
 - ▶ There was a trend in decrease in anterior surgery rate
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**Posterior surgeries increased
($p = 0.004$)**



**Combined surgeries decreased
($p = 0.001$)**



- ▶ Complication and co-morbidity rates were constant for all types of surgeries.
 - ▶ LOS significantly decreased for anterior surgeries ($p = 0.008$), but remained constant for posterior and combined surgeries.
 - ▶ Hospital charges significantly increased for all types of surgeries.
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Conclusion

- ▶ Over the 15-year period, there was no change in complication rates, co-morbidity rates and length of hospital stay for early onset idiopathic scoliosis surgeries. Posterior surgery rates and hospital charges increased and combined surgeries decreased significantly.
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