Factors Influencing the Decision for Surgical Intervention in Early Onset Scoliosis

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Disclosures

Author	Disclosure
Pooria Salari	No relationships
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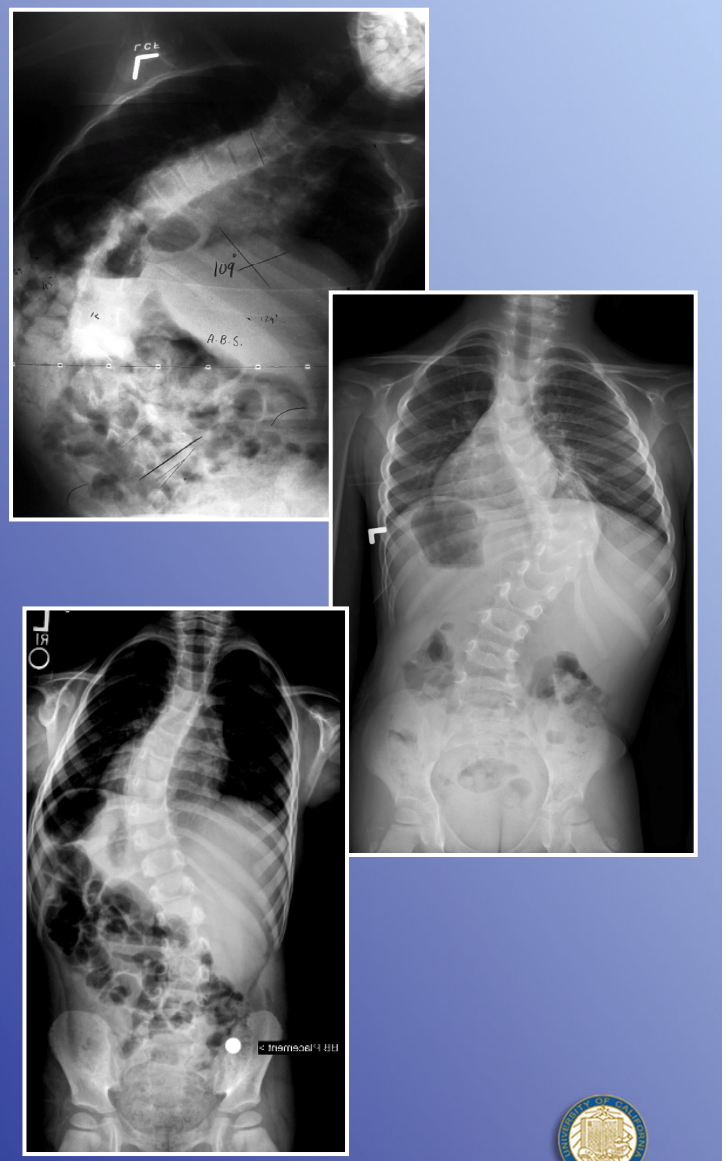
Introduction

- Early Onset Scoliosis (EOS) covers a broad spectrum of patients
  - Curve severity
  - Diagnosis; etiology
  - Comorbidities (e.g. pulmonary)
  - General medical needs
- Surgical indications can widely vary between patients *and* *surgeons*



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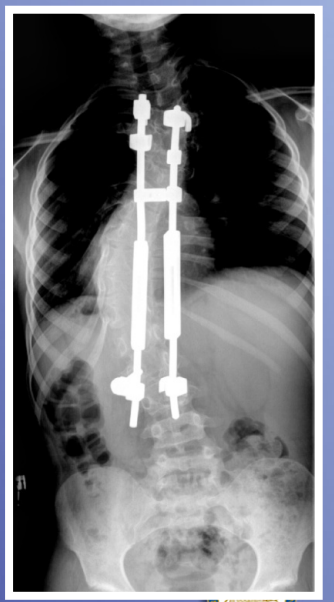
Introduction

- No definitive consensus exists for indications for surgery in EOS
- The purpose of this study was to identify specific factors that influence surgeons to avoid surgery in EOS
- A survey was designed to examine demographic, diagnostic and clinical thresholds surgeons use when considering surgery in EOS



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Methods

- Seven multiple choice questions were posed to surgeons who specialize in the treatment of EOS

Survey Questions
1. What is the youngest patient age you will perform surgery on?
2. Is there a specific diagnosis (with EOS) that you will not perform surgery?
3. What is the minimum weight for age percentile you will perform surgery?
4. What is the minimum pulmonary function you will perform surgery?
5. Which cardiac issues do you consider as a contra-indication for this type of treatment?
6. What is the minimum Bone Mineral Density Z-Score?
7. Rank the 4 most important factors in your decision making

Methods

- The survey was sent to 47 Pediatric spine surgeons who regularly treat EOS
- The responses were tabulated and analyzed

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Results

- 31 surgeons responded to the survey
- **AGE**
  - 27 (87%) surgeons considered age as a factor when considering surgical treatment
  - 22 (71%) would operate on patients between 6 months to 2 years of age
- **DIAGNOSIS**
  - 22 of 28 (79%) respondents stated the patient's diagnosis was not a factor
  - Osteogenesis imperfecta was the most common (14%) diagnostic contraindication for surgery

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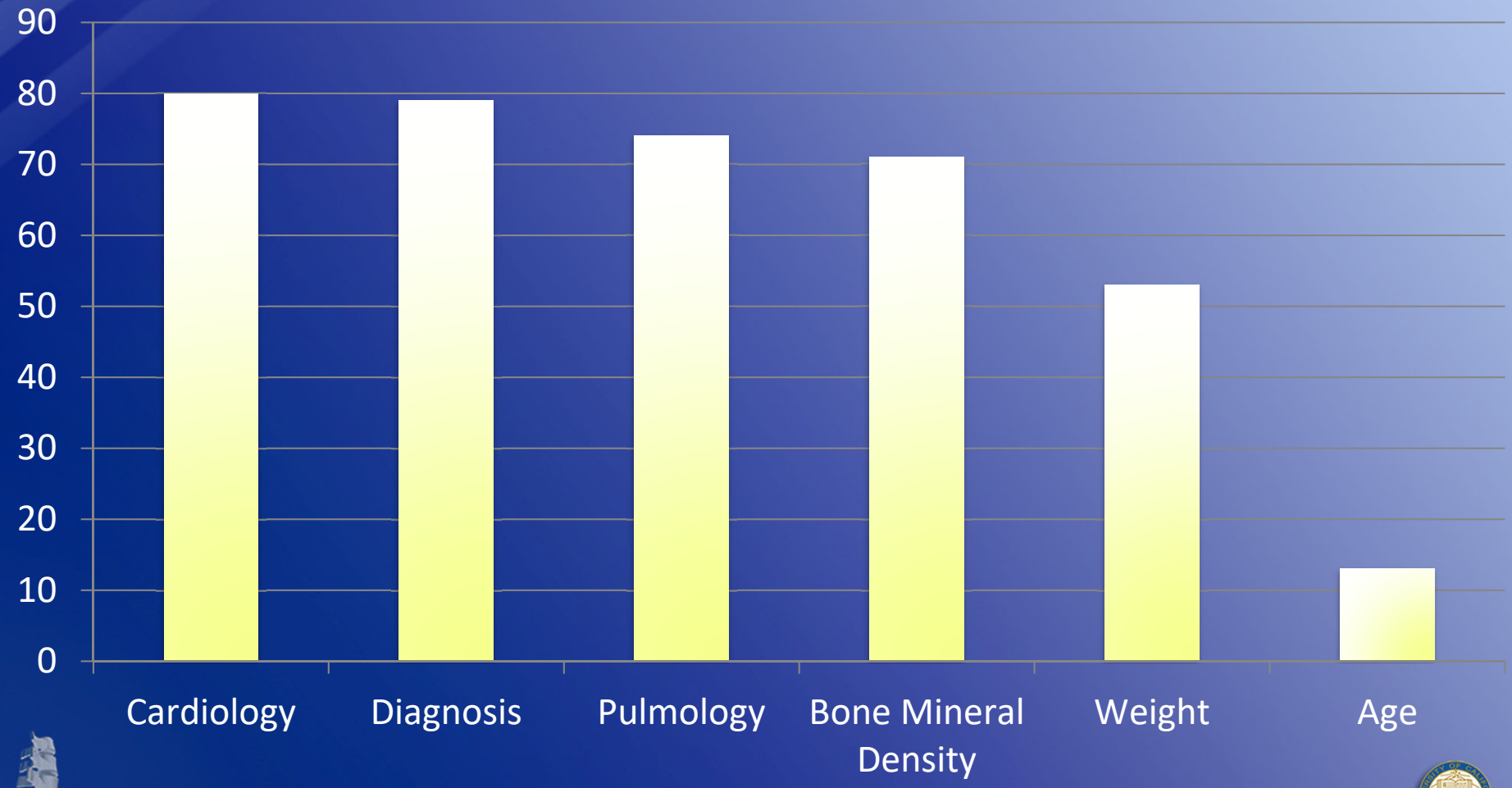
Results

- Percentage of surgeons who would operate *despite presence* of pre-operative risk factor



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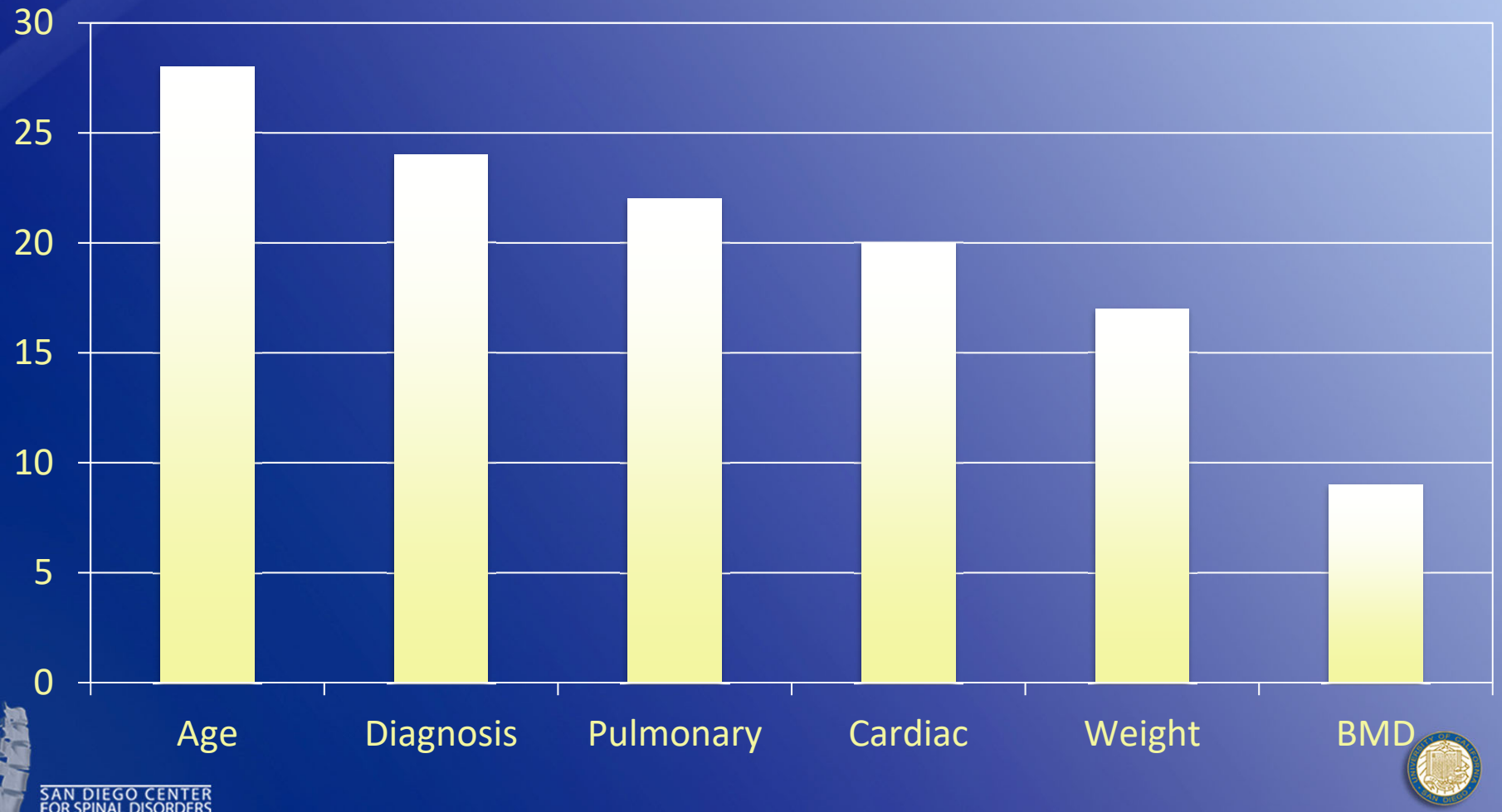
Results

- Specific factors ranked by surgeons when considering surgical intervention in EOS
  - ***87% of surgeons considered AGE as the most important factor***



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Discussion

MAJOR FACTORS:

- Age
- Weight

MINOR FACTORS:

- Diagnosis
- Pulmonary function
- Cardiac status
- BMD

Conclusion

- The decision to perform or avoid surgery is often made by the *combination of factors*, and an obvious need to arrest the natural history of the spinal deformity may outweigh potential risks

- In light of new information, the age when surgical treatment is initiated may be important and should be balanced against the risk of curve worsening