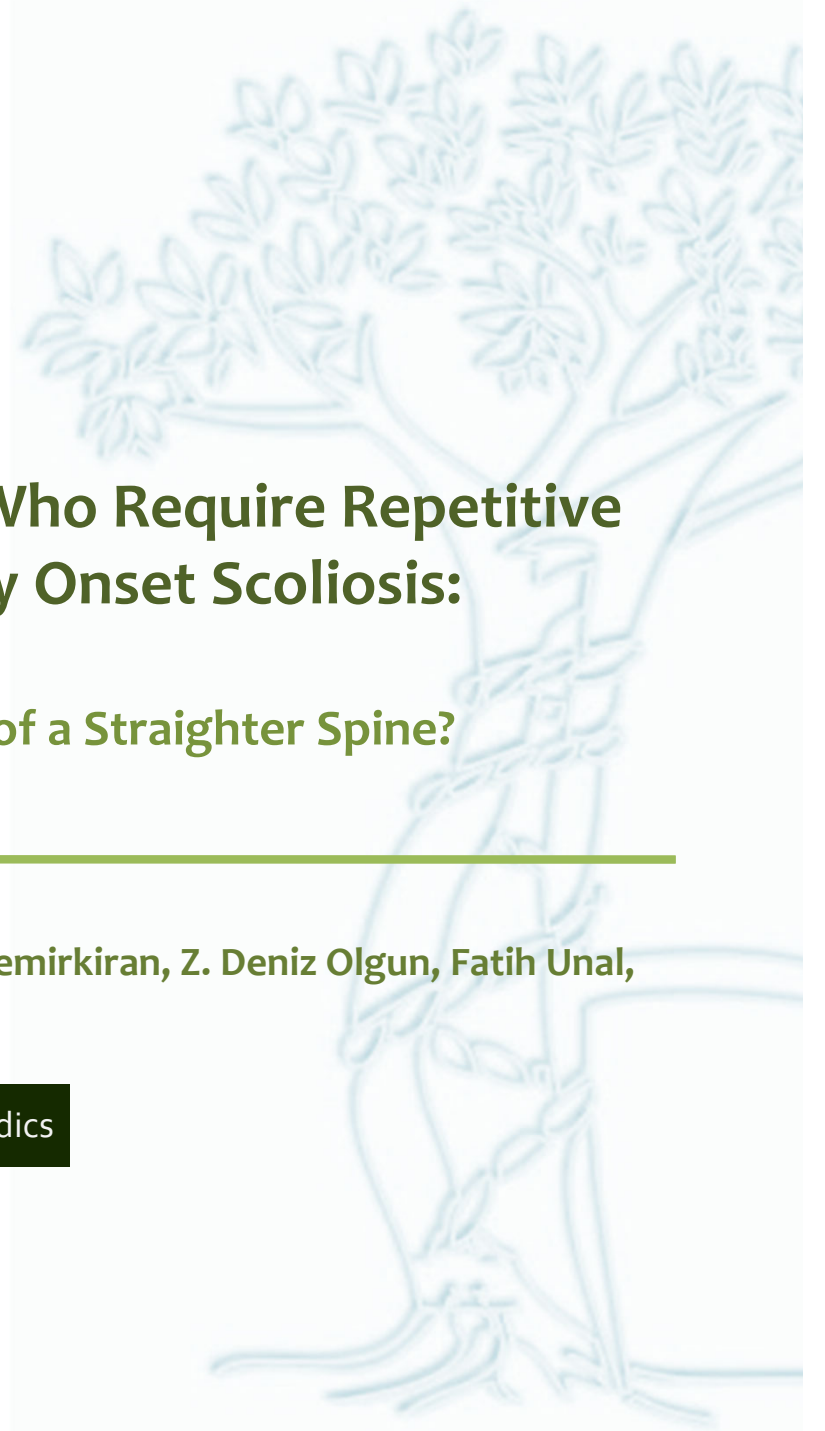


Psychological Profile of Children Who Require Repetitive Surgical Procedures for Early Onset Scoliosis:

Is a Poorer Quality Of Life the Cost of a Straighter Spine?

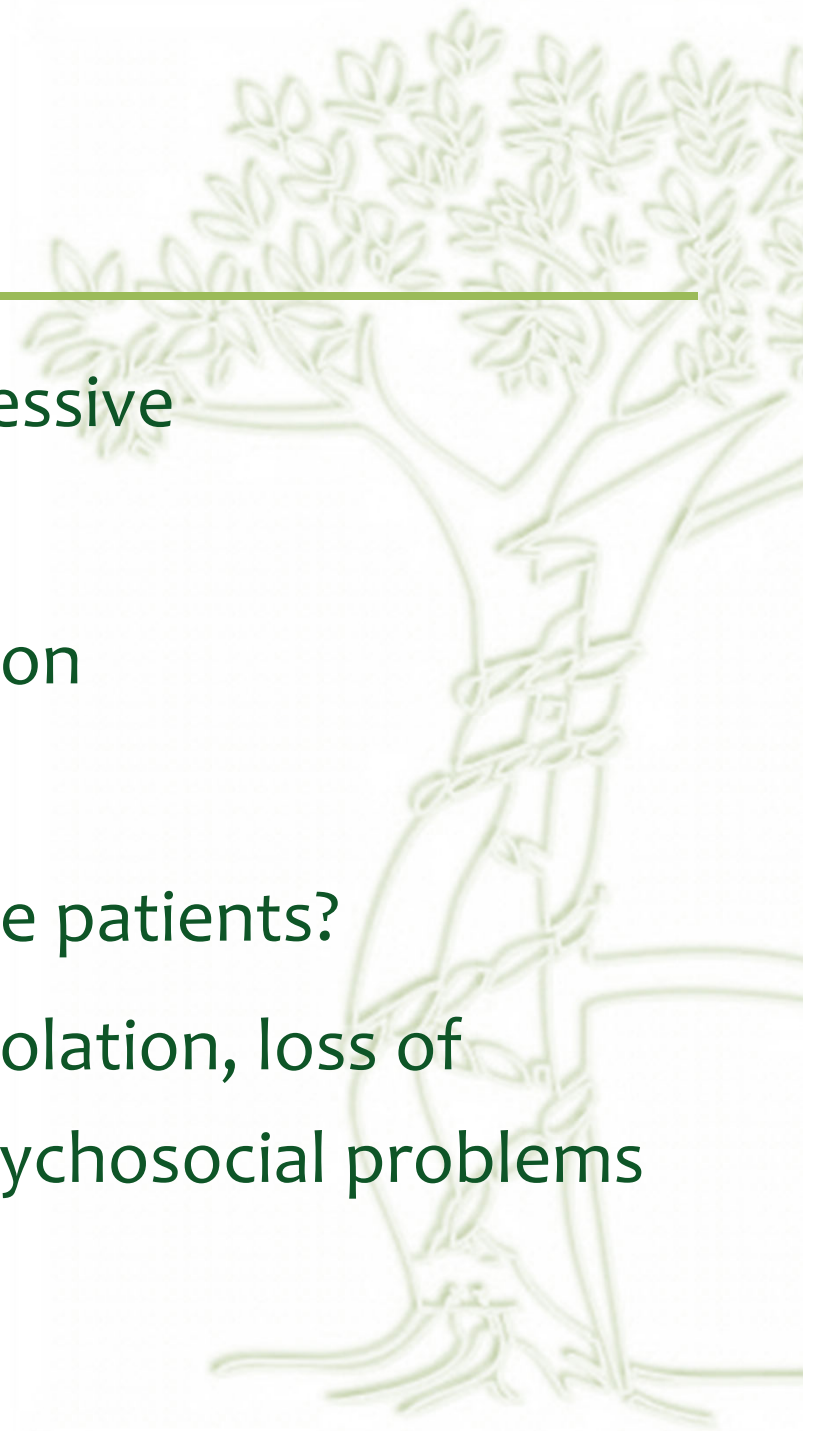
Cihan Aslan, Erkan Sabri Ertas, Seniz Ozusta, Gokhan Demirkiran, Z. Deniz Olgun, Fatih Unal,
Muharrem Yazici

Hacettepe Orthopaedics
Ankara, Turkey



Early-onset Scoliosis

- Often severe, generally progressive
- Requires intervention
- Growth-friendly instrumentation
- Repetitive surgery
- Curves do well, what about the patients?
- "Birthday syndrome": social isolation, loss of motivation, frustration and psychosocial problems



Early-onset Scoliosis



J Pediatr Orthop. 2012 Sep;32(6):594-9. doi: 10.1097/BPO.0b013e31826028ea.

Psychological dysfunction in children who require repetitive surgery for early onset scoliosis.

Flynn JM¹, Matsumoto H, Torres F, Ramirez N, Vitale MG.

- 12 patients filled out BASC-2
- 25% clinically significant range, 33% at risk

J Pediatr Orthop. 2014 Mar;34(2):172-8. doi: 10.1097/BPO.0b013e3182a11d73.

Psychosocial effects of repetitive surgeries in children with early-onset scoliosis: are we putting them at risk?

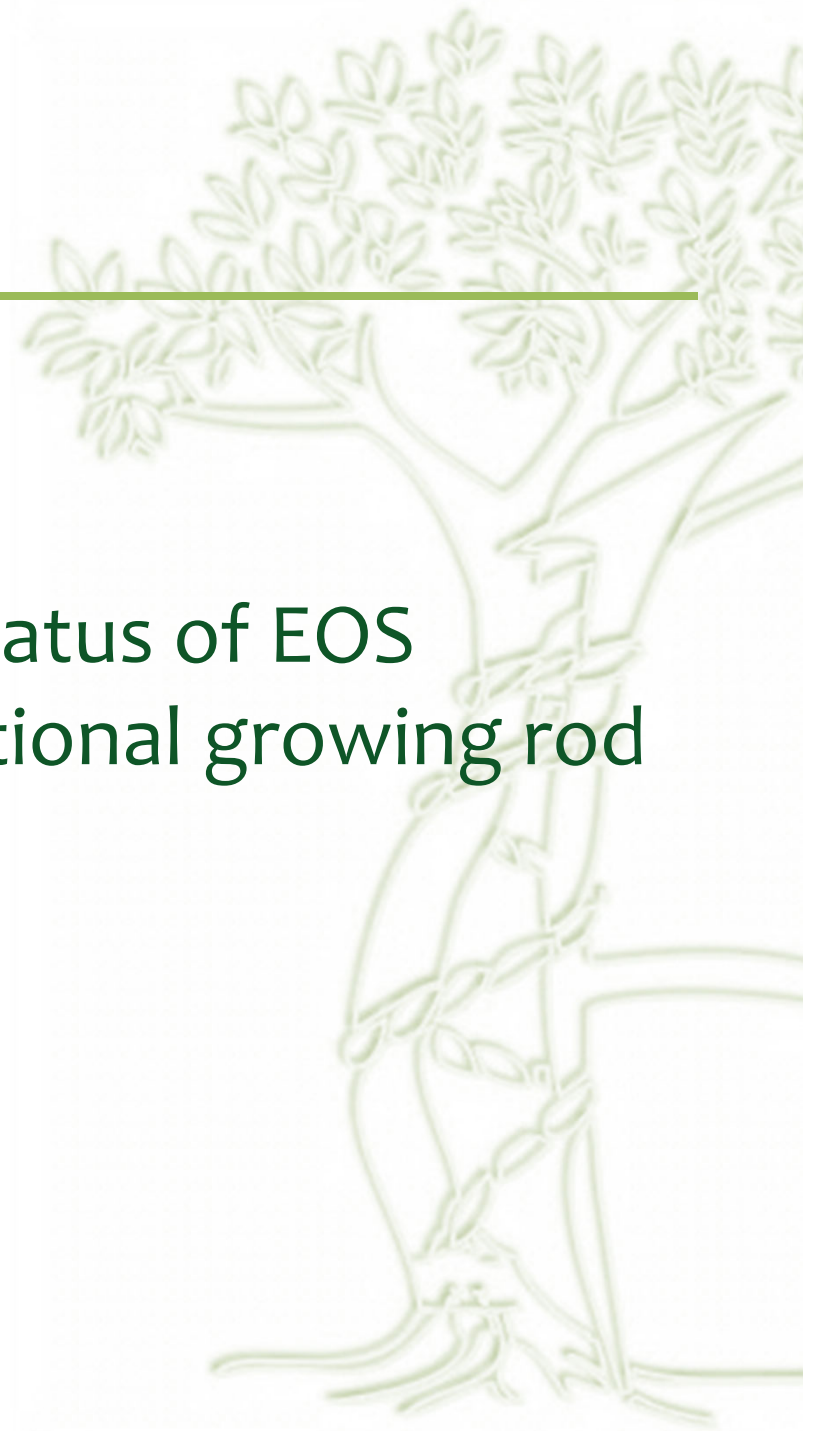
Matsumoto H¹, Williams BA, Corona J, Comer JS, Fisher PW, Neria Y, Roye BD, Roye DP, Vitale MG.

- 34 EOS patients, CBCL and SDQ
- Higher abnormal scores on multioperated patients correlating with number of surgeries
- Healthier scores in one positive domain related to "post-traumatic growth"?

BASC: Behavior Assessment System for Children, CBCL: Child Behavior Checklist, SDQ: Strengths and Difficulties Questionnaire

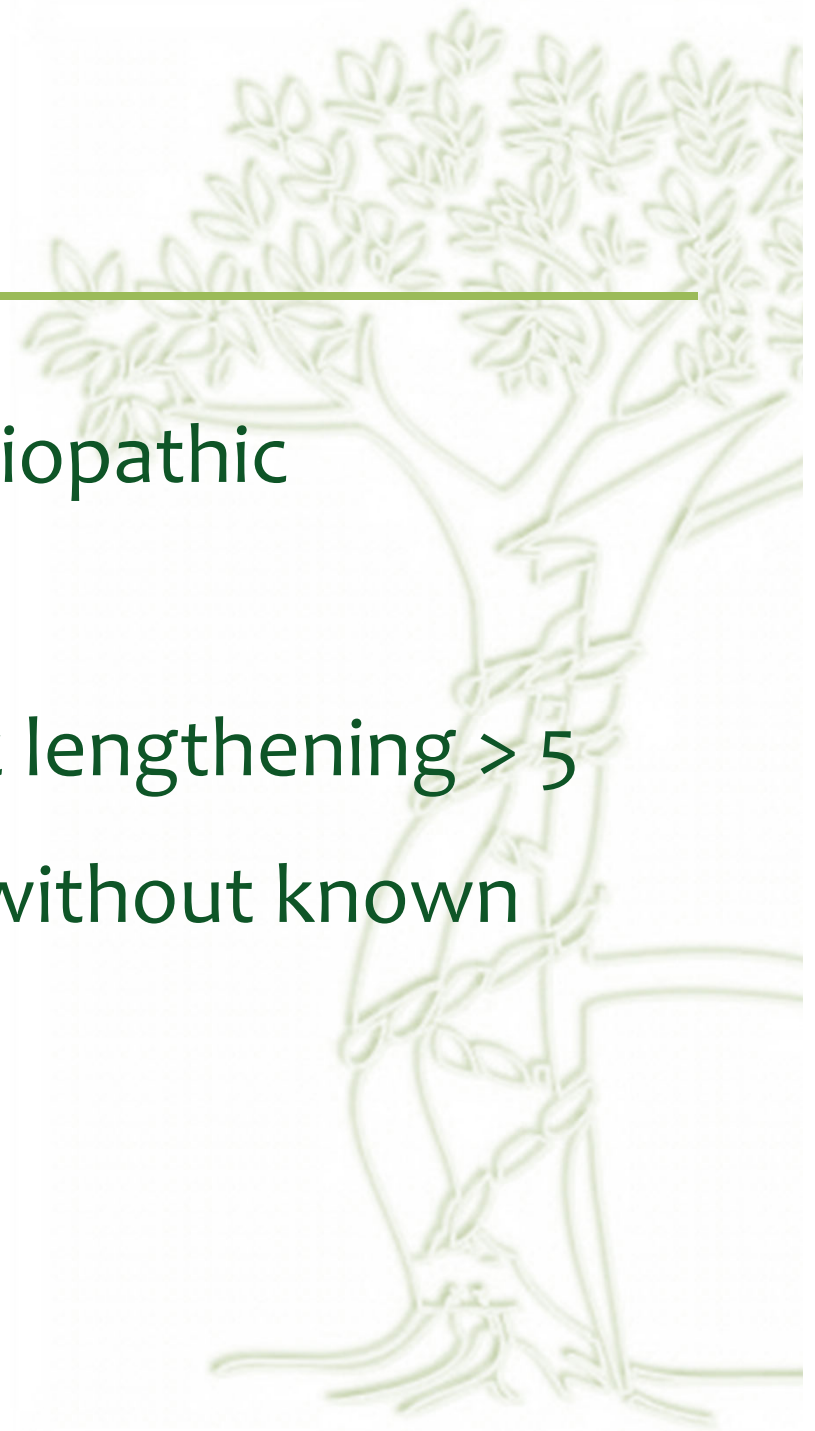
Aim

- Assess the psychosocial status of EOS patients undergoing traditional growing rod treatment



Patients

- EOS, idiopathic and non-idiopathic
- Age 6-18 years
- Index operation + periodic lengthening > 5
- Independent ambulators without known neurologic disorders
- Normal mental state



Methods

Info sheet Sociodemographic information

K-SADS-P/L Kiddie Schedule for Affective Disorders and Schizophrenia

WISC-R Wechsler Intelligence Scale for Children

PedsQL Measure overall quality of life

CDI Children Depression Inventory

SDQ Strengths and Difficulties Questionnaire

ADHS Attention Deficit and Hyperactivity disorder, including Oppositional Defiant Disorder and Conduct Disorder

BDI Beck Depression Inventory

BAI Beck Anxiety Inventory

SCARED Self-Report for Childhood Anxiety-Related Disorders

Results

Patients meeting inclusion criteria: 21 (9 male, 12 female)

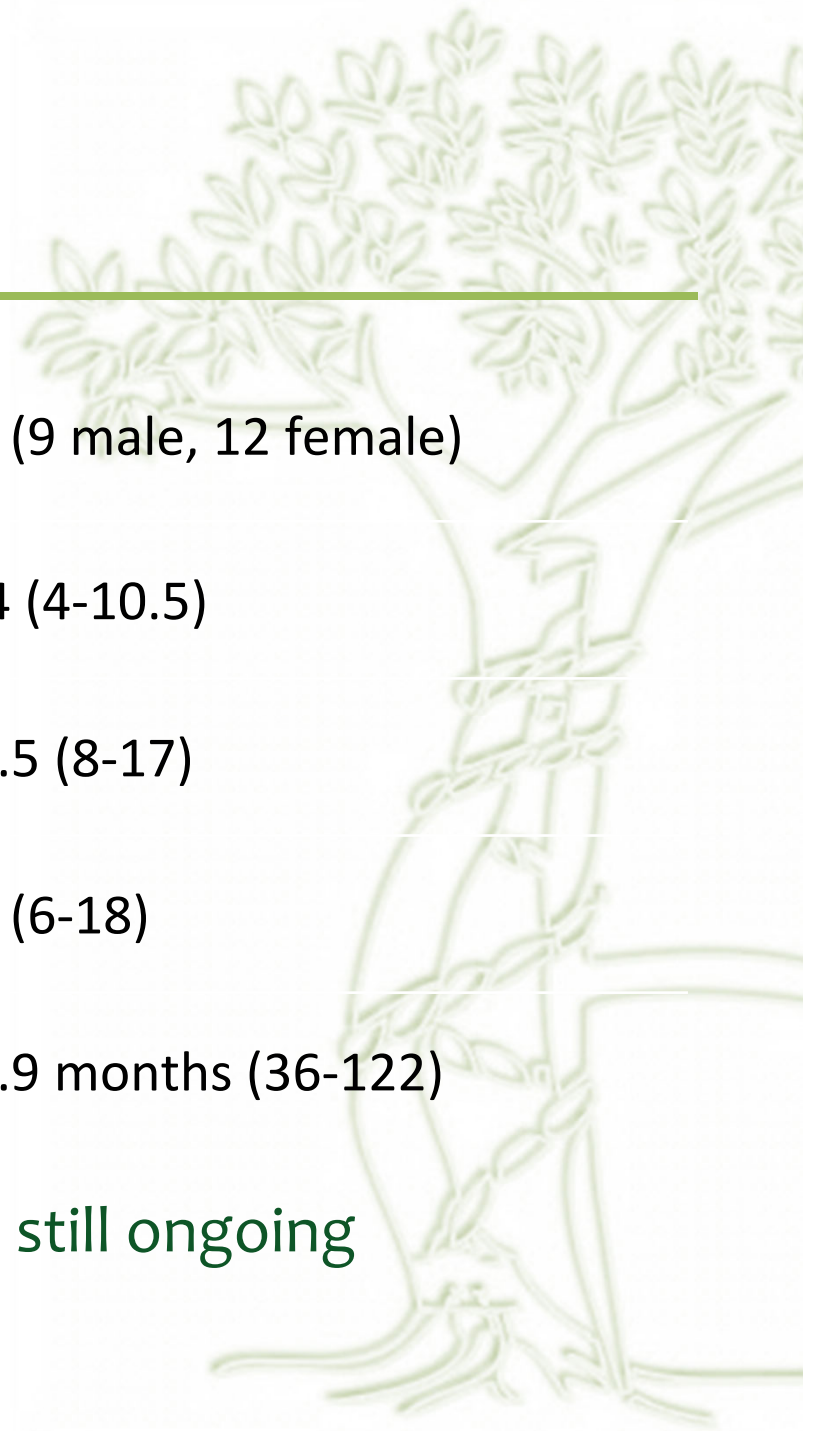
Average age at index operation: 6.4 (4-10.5)

Average age at final follow-up: 13.5 (8-17)

Mean # of procedures: 13 (6-18)

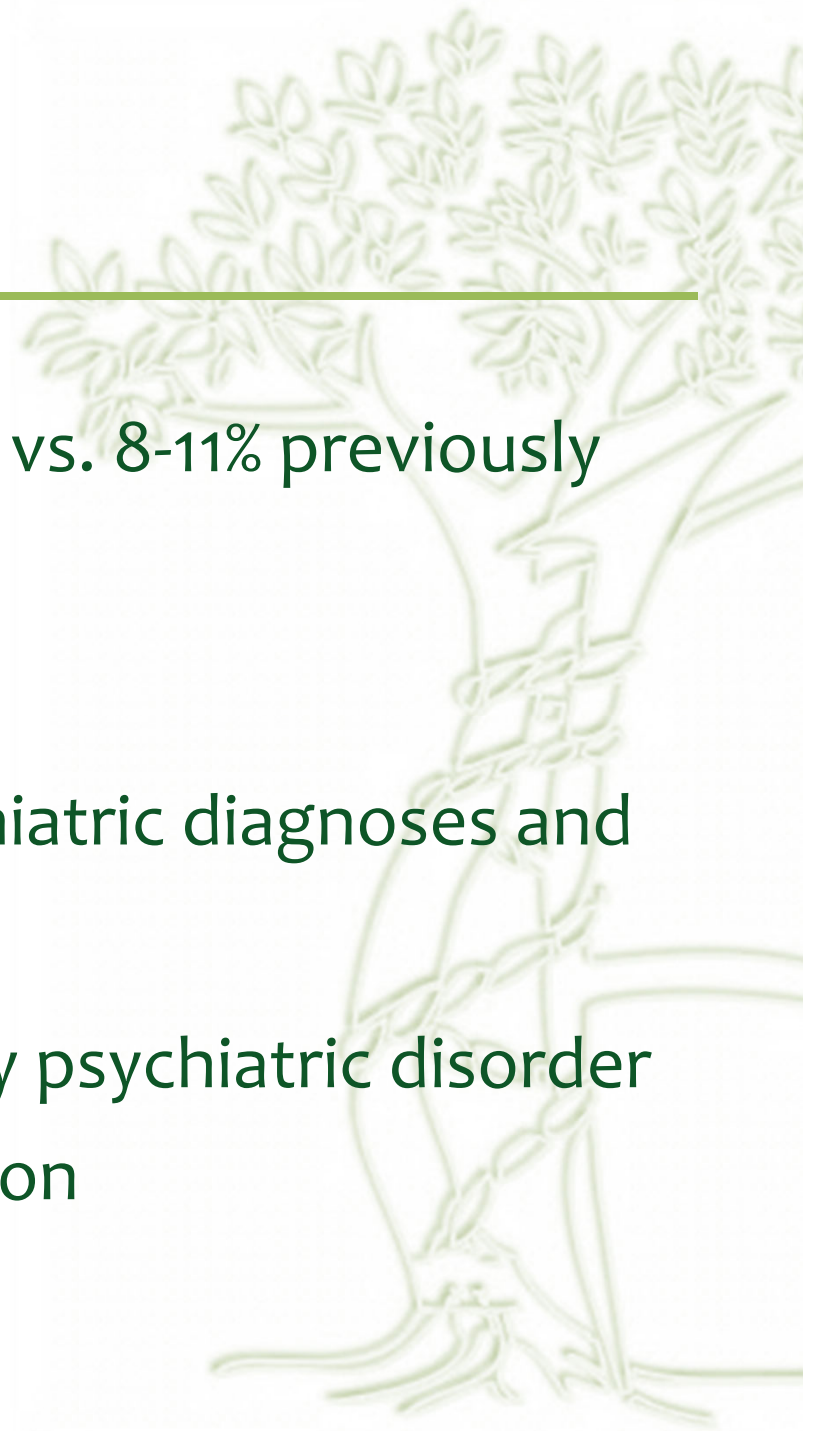
Mean follow-up: 83.9 months (36-122)

- 6 patients done with treatment, 15 still ongoing

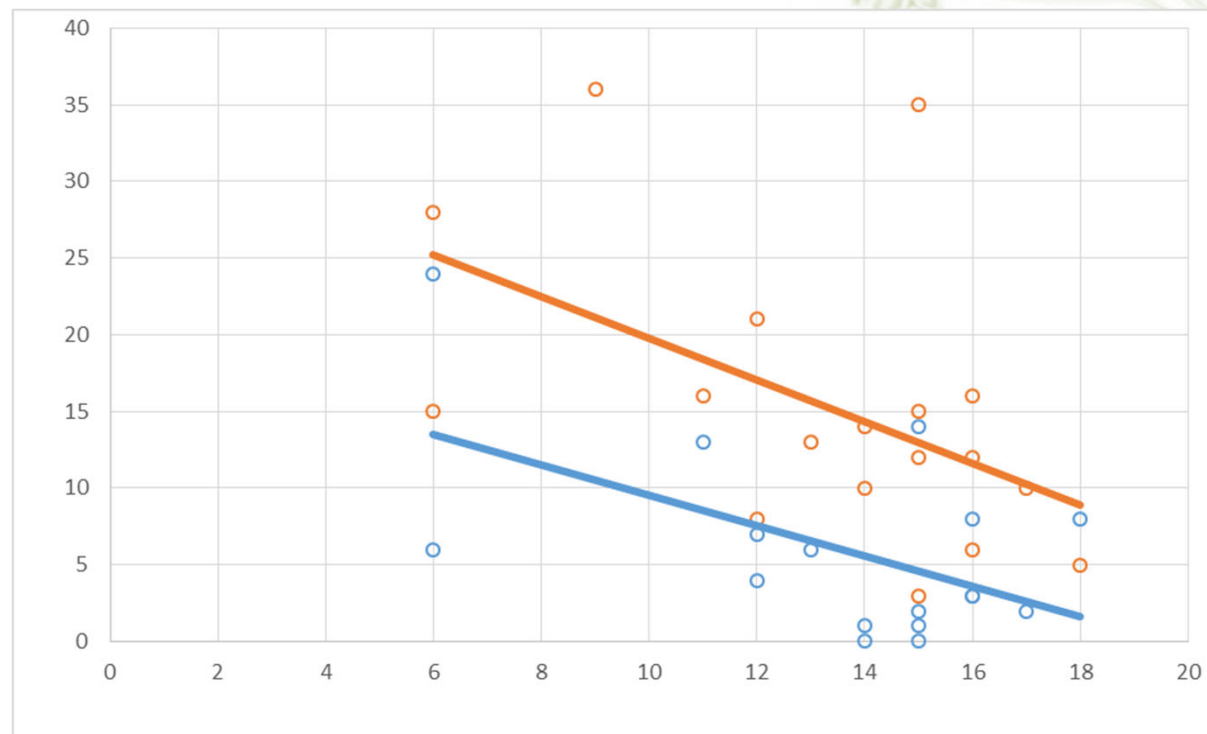


Results

- Incidence of depression 23.8% vs. 8-11% previously reported
- Anxiety: 33% vs. 1.5-5%
- No correlation between psychiatric diagnoses and orthopedic variables
- Cohort more likely to have any psychiatric disorder compared to general population



Number of surgeries vs. SCARED/BAI



-SCARED -BAI

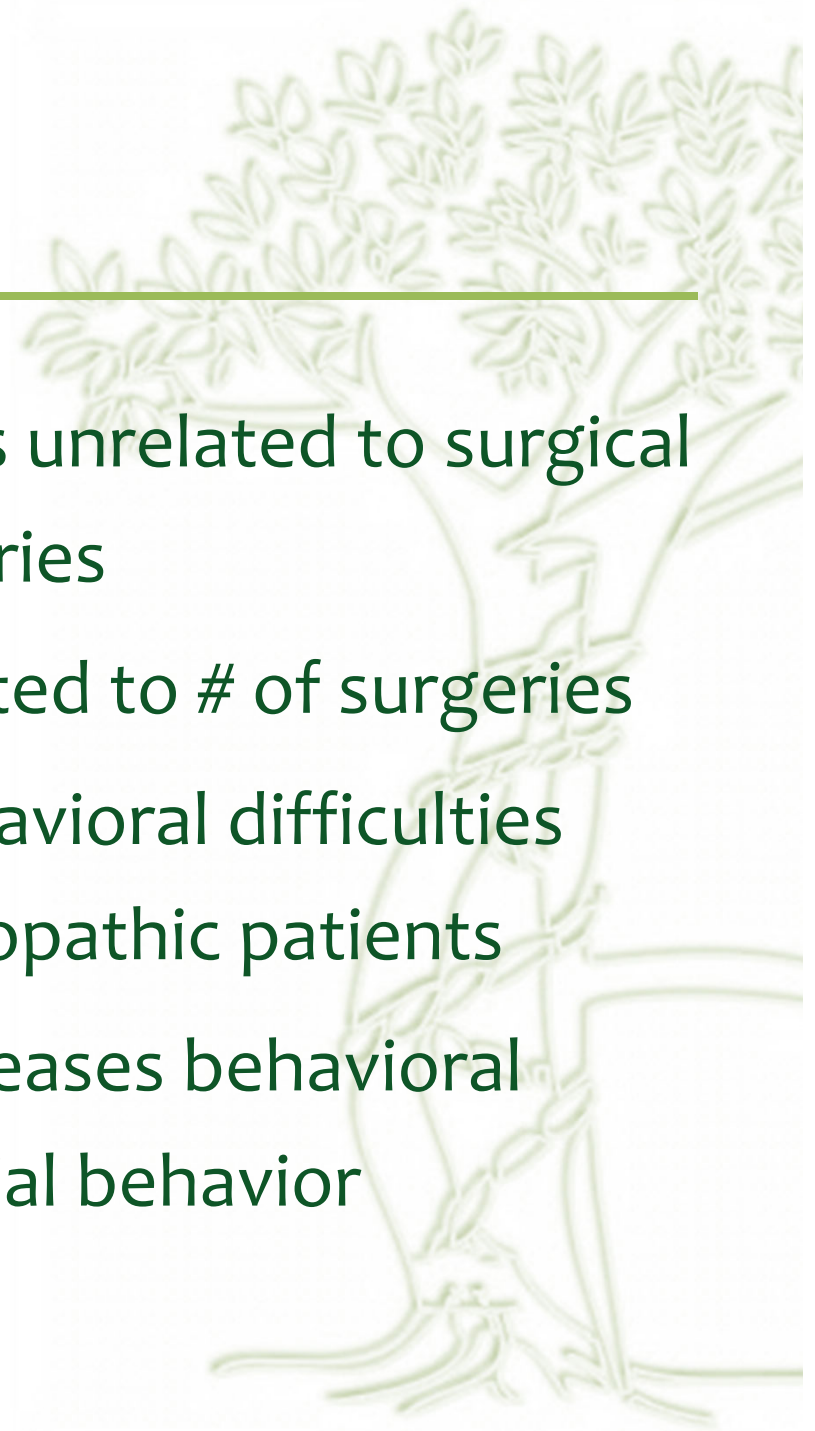
Results

- Social and specific phobias more common
19 and 33.3% vs. 4-10 and 8.7%
- ADHD 14.2% vs. 5%
- Oppositional Defiant Disorder similar
9.5% vs. 2-10%

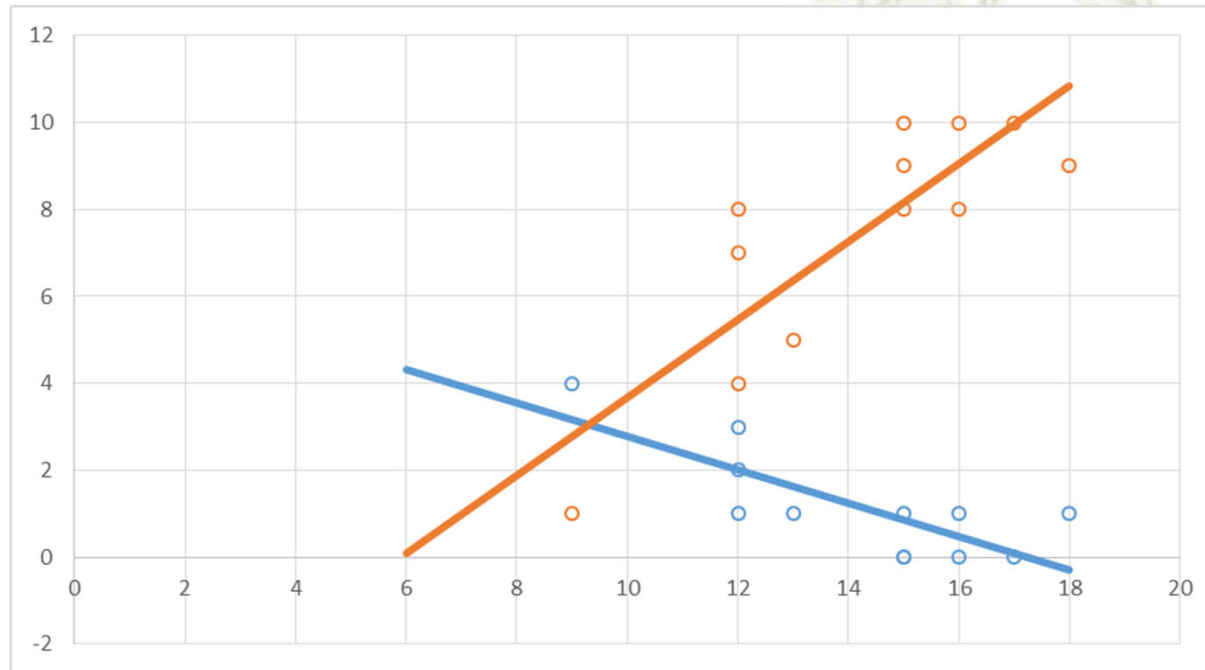


Results

- Depression and ADHD indices unrelated to surgical variables including # of surgeries
- Anxiety indices inversely related to # of surgeries
- Self and parent reported behavioral difficulties significantly higher in non-idiopathic patients
- Increased # of surgeries decreases behavioral difficulties, increases pro-social behavior



SDQ vs. number of surgeries



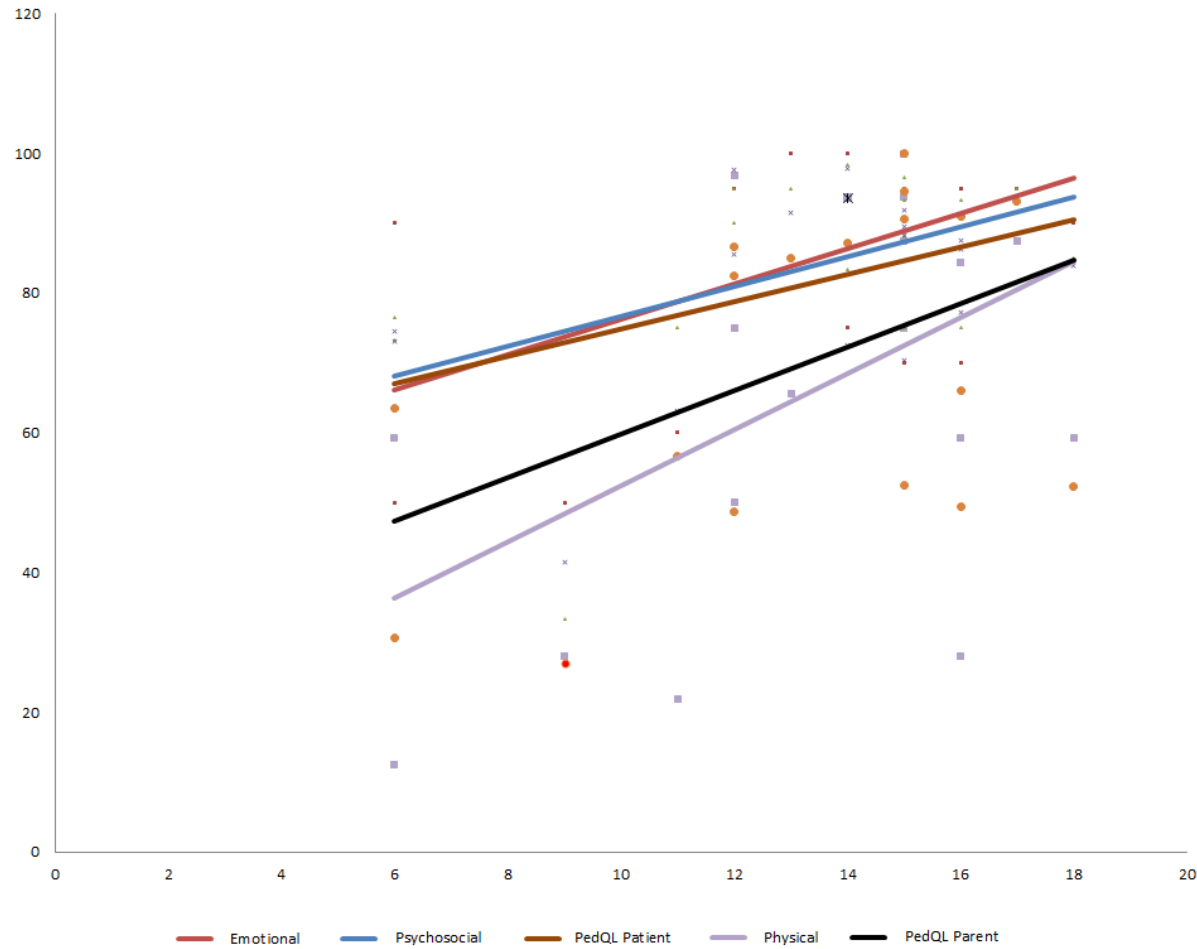
- Prosocial Behavior - Behavioral Difficulties

Results

- PedsQL
 - Idiopathic patients scored higher in most domains
 - Higher scores with more surgeries in emotional functioning, psychosocial health summary and total scale score

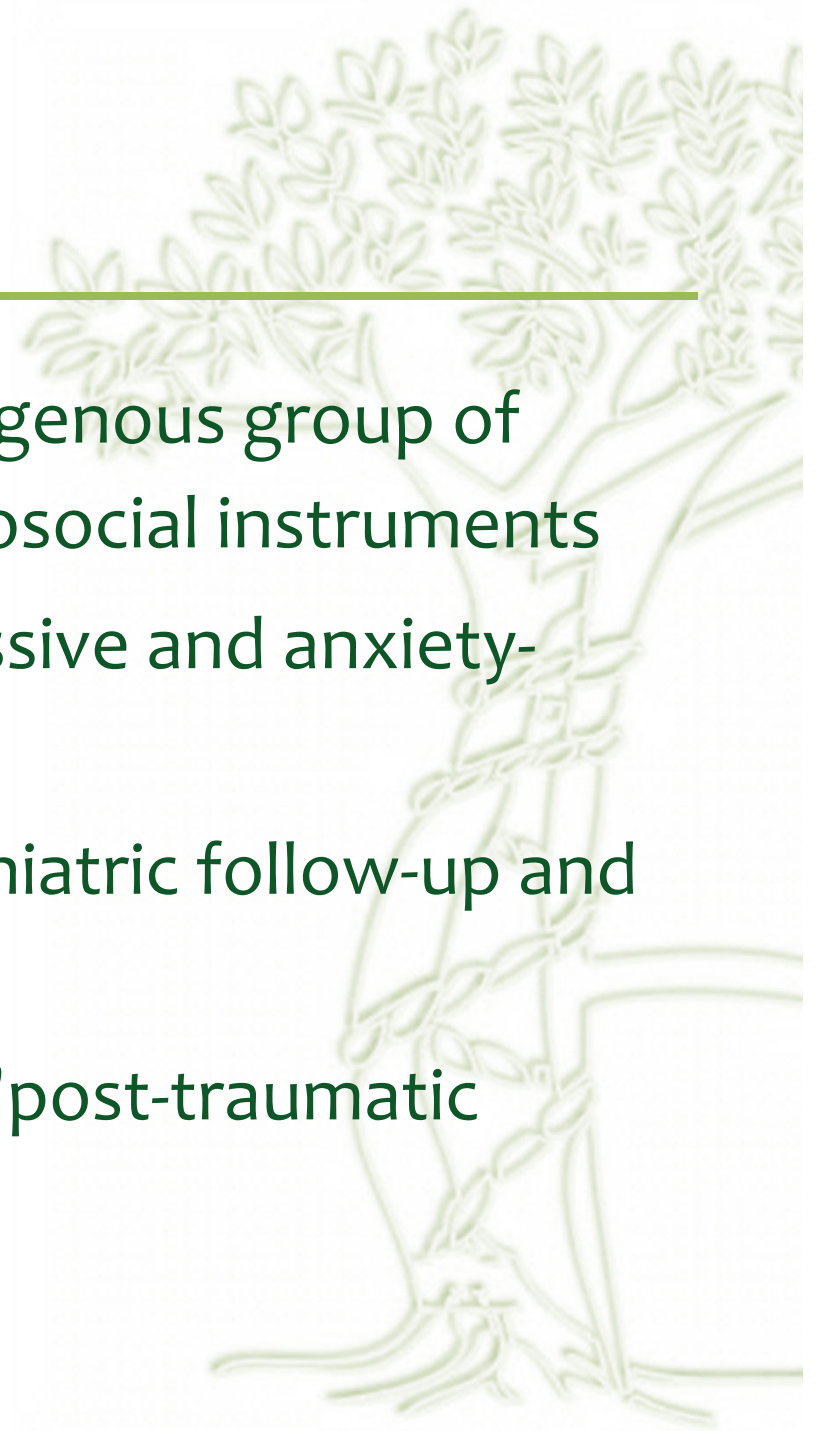


PedsQL vs. number of surgeries



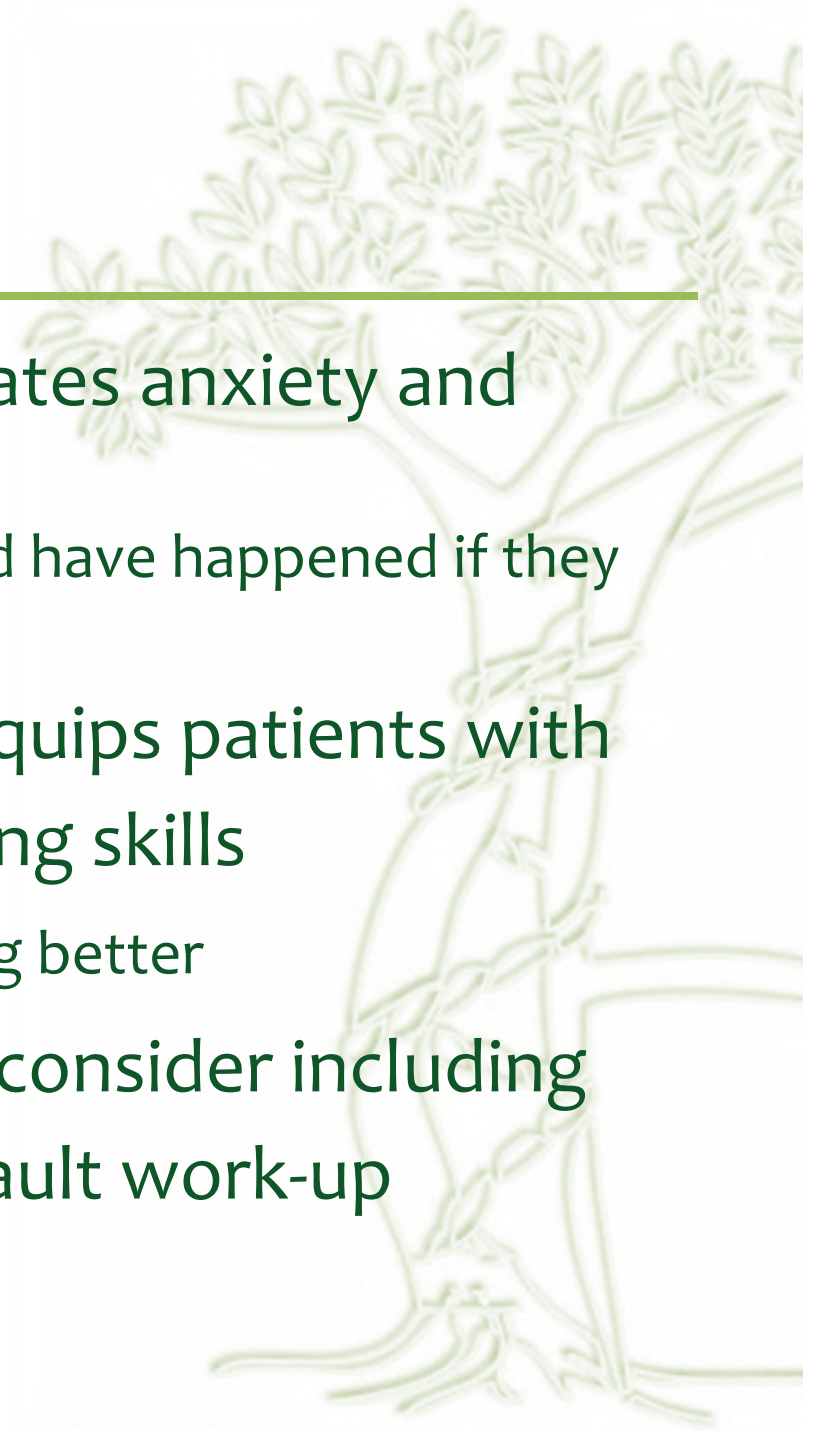
Discussion

- First study with a more homogenous group of patients and extensive psychosocial instruments
- Increased incidence of depressive and anxiety-related symptoms
- 42% of patients required psychiatric follow-up and 14% needed medication
- Increased functioning scores 'post-traumatic growth'?



Conclusion

- EOS and its treatment generates anxiety and depression
 - However, no data on what would have happened if they had not received treatment
- More surgeries undergone equips patients with increased resilience and coping skills
 - Patients realizing they are getting better
- Growing spine clinics should consider including psychiatric counseling in default work-up



Thank you

Hacettepe Orthopaedics

