

Nutritional Status: Management of the Emaciated



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Disclosures

- Up to date in Program Book
- None related to this talk

Nutritional Status: Management of the Emaciated

Our Low-BMI Poster Child

Our Low-BMI Poster Child

Meet Logan

- Presented as 1 y/o IIS @ 71°
- 4 yrs of bracing and casting
- Now 5 y/o

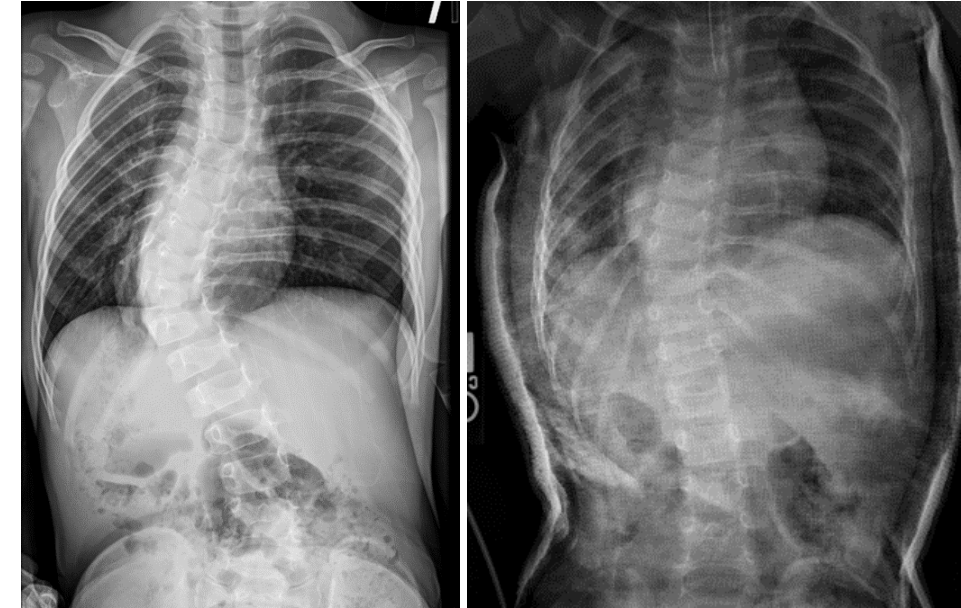


10/16/14 Second MEHTA	8/21/14 First MEHTA	7/24/14 sitting
Degrees	Degrees	Degrees
27	33	71

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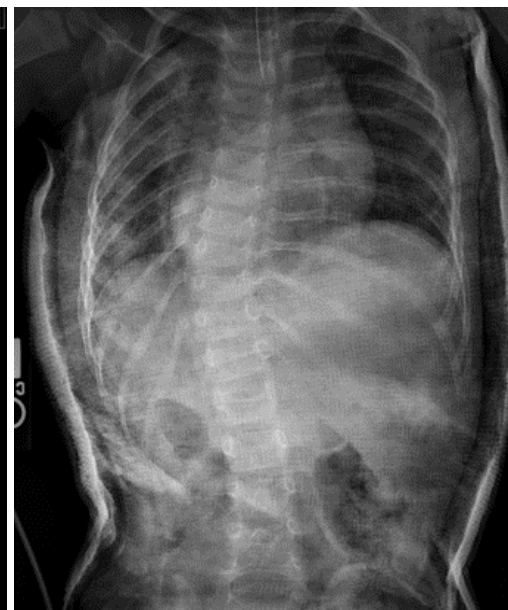
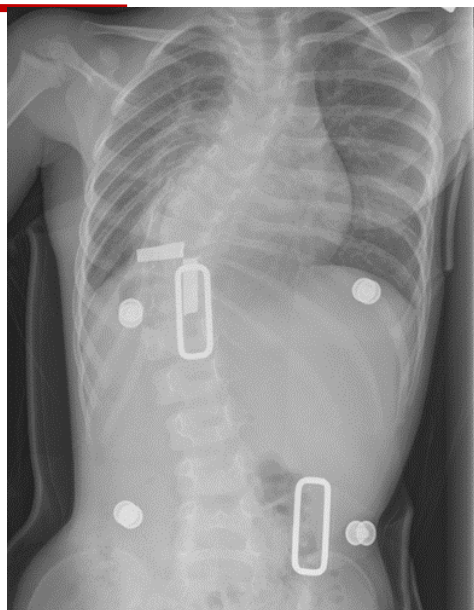
Recurrent respiratory infections in cast
Trouble feeding, with wt. loss
Family, medical team asks for brace

7/2/2015 5 weeks Out of cast	10/16/14 Second MEHTA	8/21/14 First MEHTA	7/24/14 sitting
Degrees	Degrees	Degrees	Degrees
73	27	33	71

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Brace: easier to feed and deal with pulm infections
Maintains curve in 60s/70s

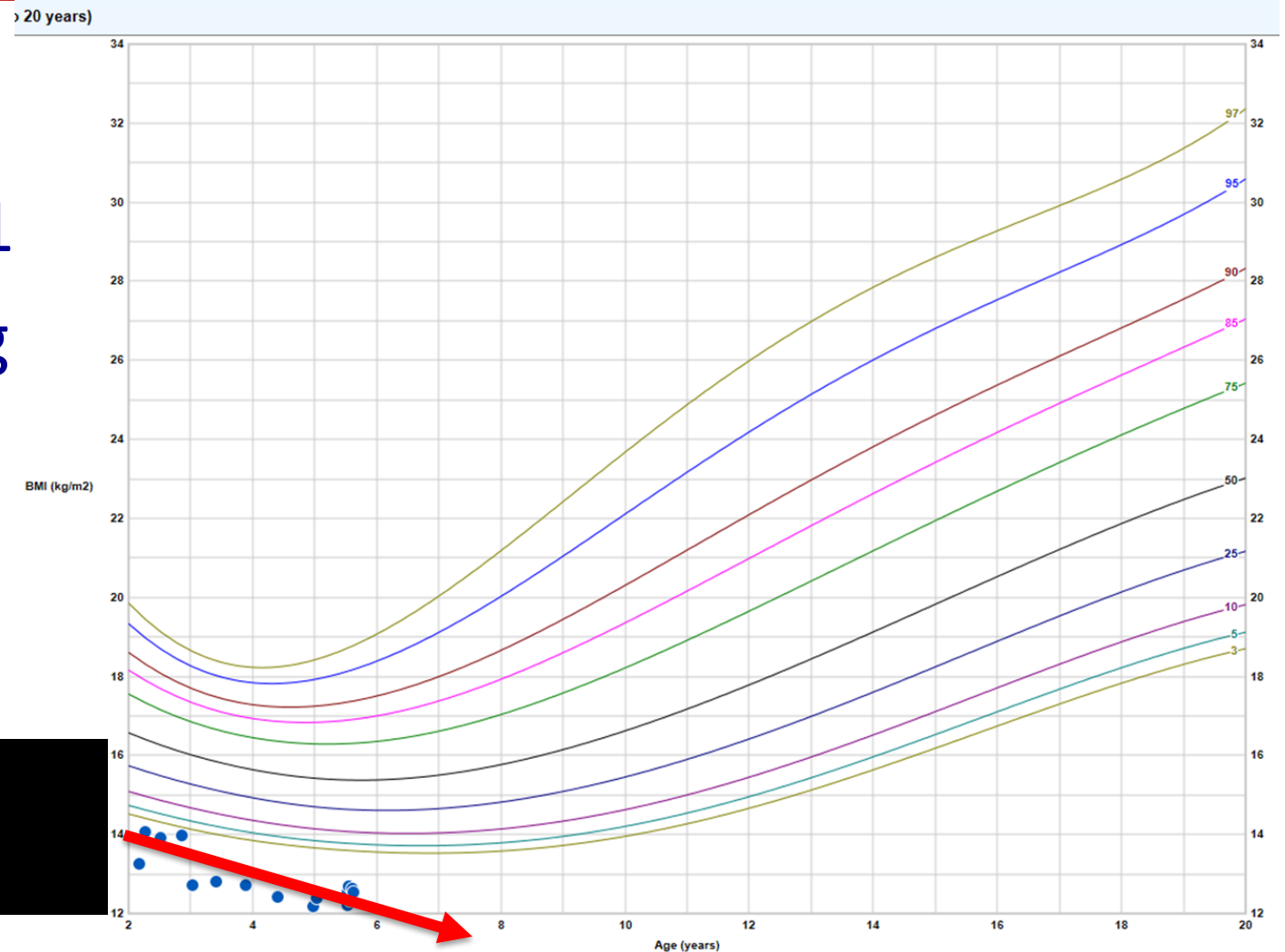
2/16/17 Out of brace	8/25/16 Out of Brace	2/4/16 Out of Brace	10/1/201 5 In Brace	7/2/2015 5 weeks Out of cast	10/16/14 Second MEHTA	8/21/14 First MEHTA	7/24/14 sitting
Degrees	Degrees	Degrees	Degrees	Degrees	Degrees	Degrees	Degrees
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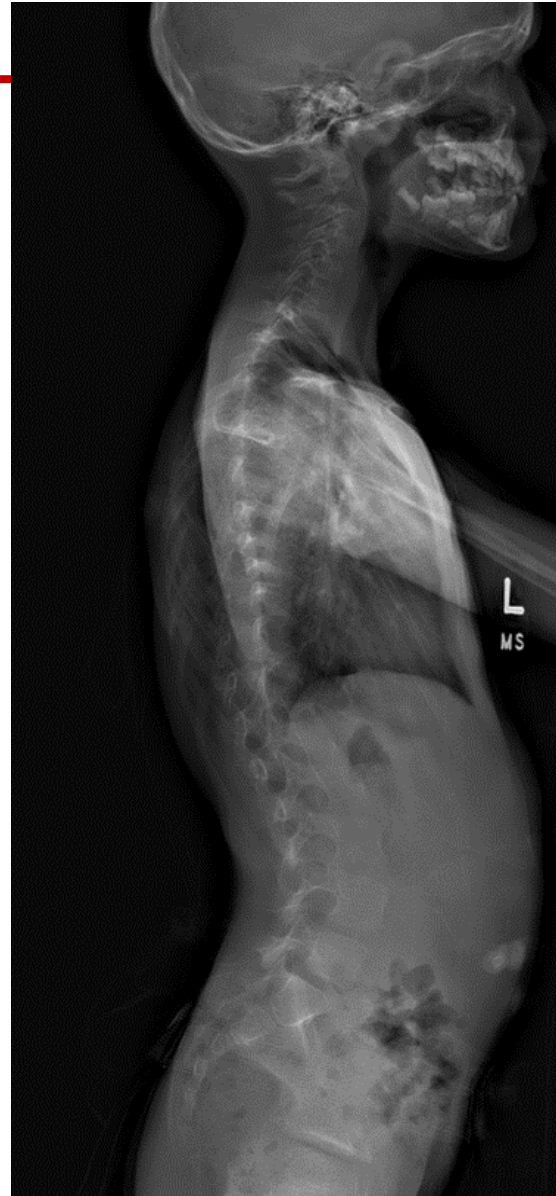
BMI Crashing!



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 - Nutrition eval: G-tube placed
- Ready for surgical discussion



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Our Low-B Back Child

I'd love me some
MAGIC!

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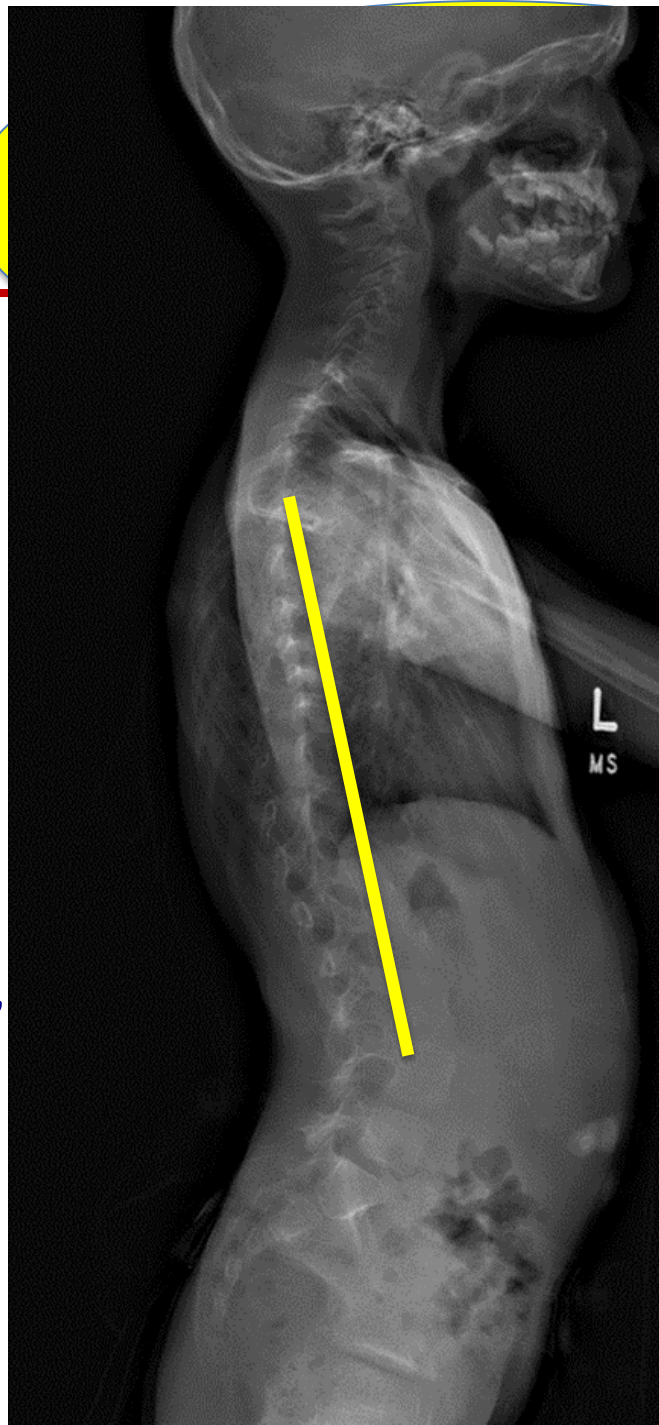


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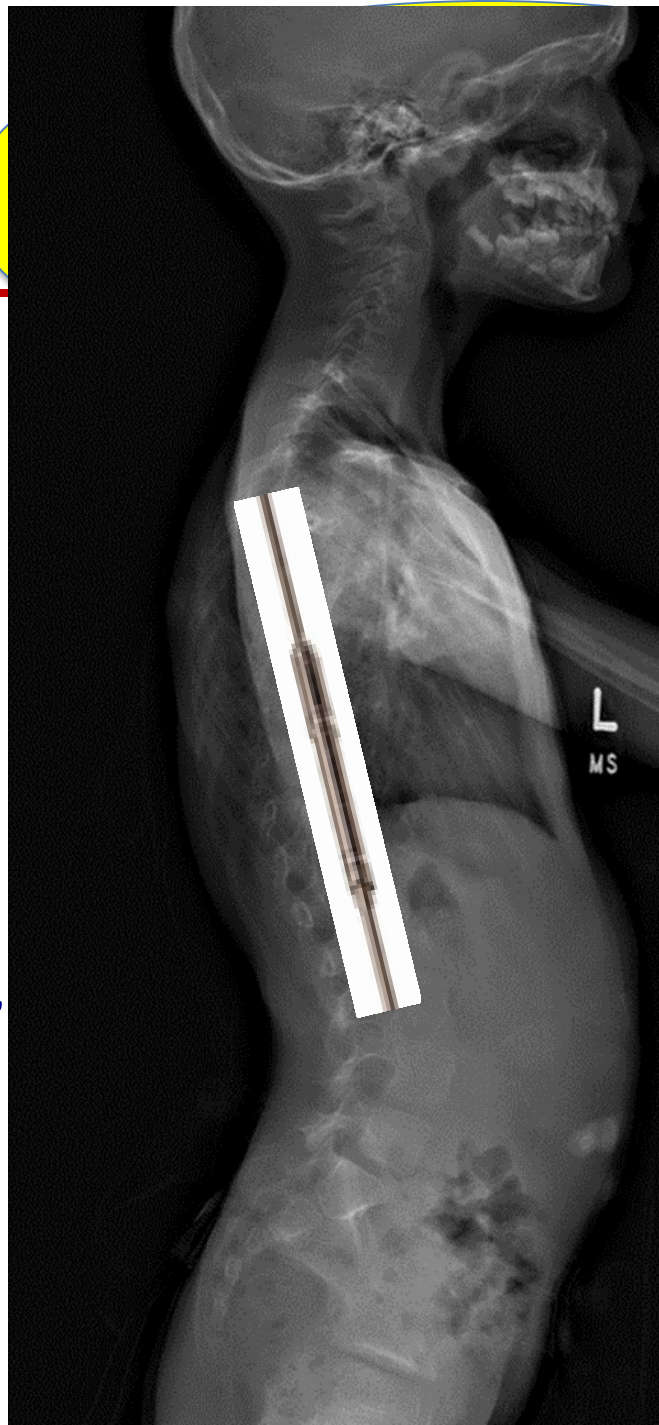


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Our Low-B

Child



Our Low-B

Child

Doc, wouldn't it
be safer if you
let him gain
some weight?

Nutritional Status: Management of the Emaciated

The Conundrum

The Conundrum

The TIS Cycle of Doom

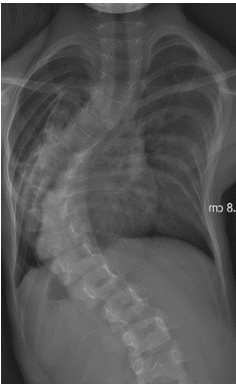
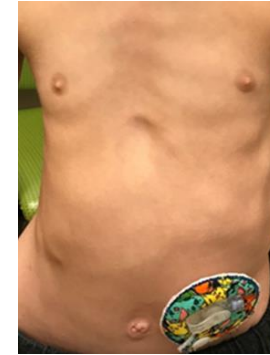
- Delay implant/correction to gain weight



The Conundrum

The TIS Cycle of Doom

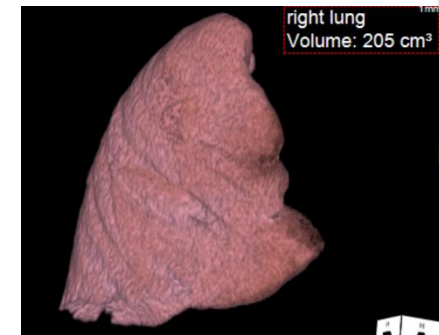
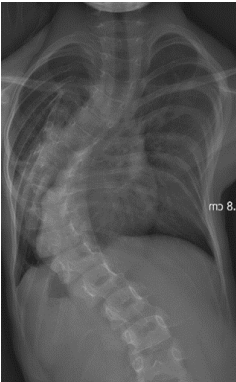
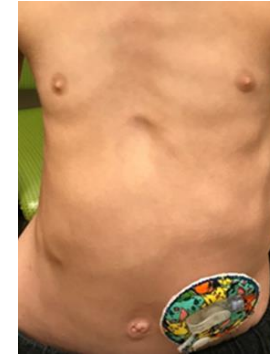
- Delay implant/correction to gain weight
- Spine deformity worsens



The Conundrum

The TIS Cycle of Doom

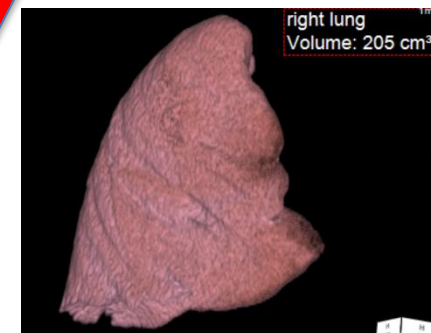
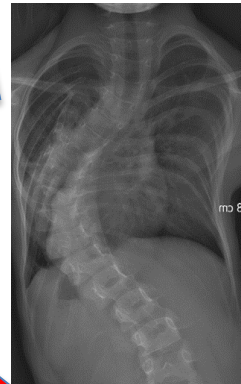
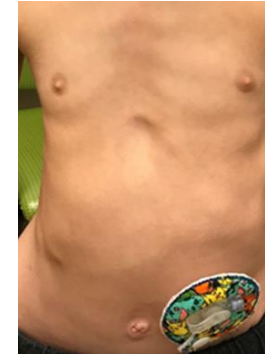
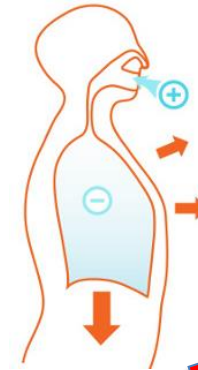
- Delay implant/correction to gain weight
- Spine deformity worsens
- Thoracic insufficiency worsens



The Conundrum

The TIS Cycle of Doom

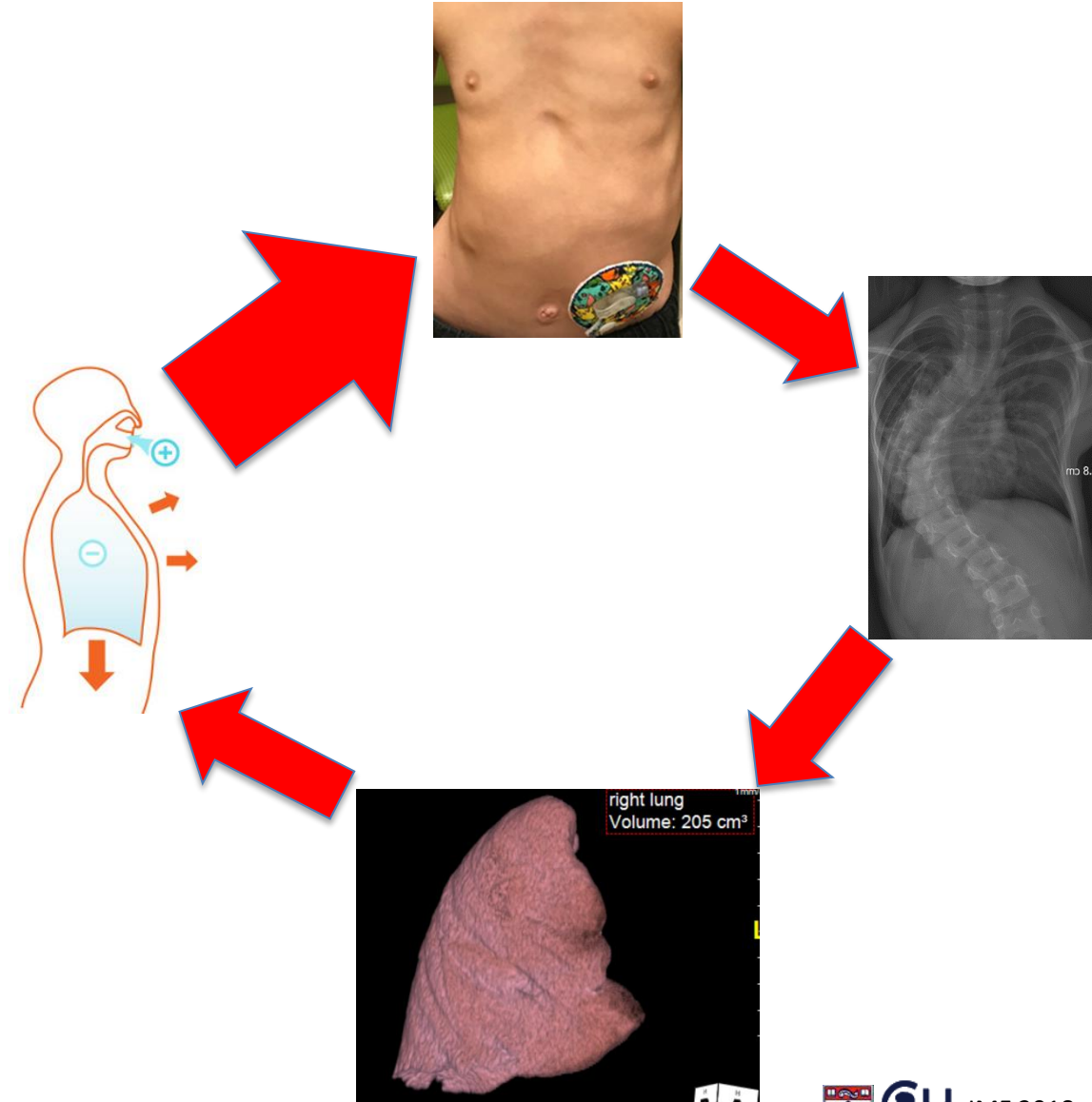
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- Spine deformity worsens
- Thoracic insufficiency worsens
- Work of breathing rises



The Conundrum

The TIS Cycle of Doom

- Delay implant/correction to gain weight
- Spine deformity worsens
- Thoracic insufficiency worsens
- Work of breathing rises
- Can't gain weight



Nutritional Status: Management of the Emaciated

What do we know:
Surgery & The
Emaciated

Surgery & The Emaciated

Not much evidence for us

- Bowen, et al: JPO 2008: Decreased pulmonary function compromise strongly correlates to low BMI in patients with congenital thoracic scoliosis

Surgery & The Emaciated

Not much evidence for us

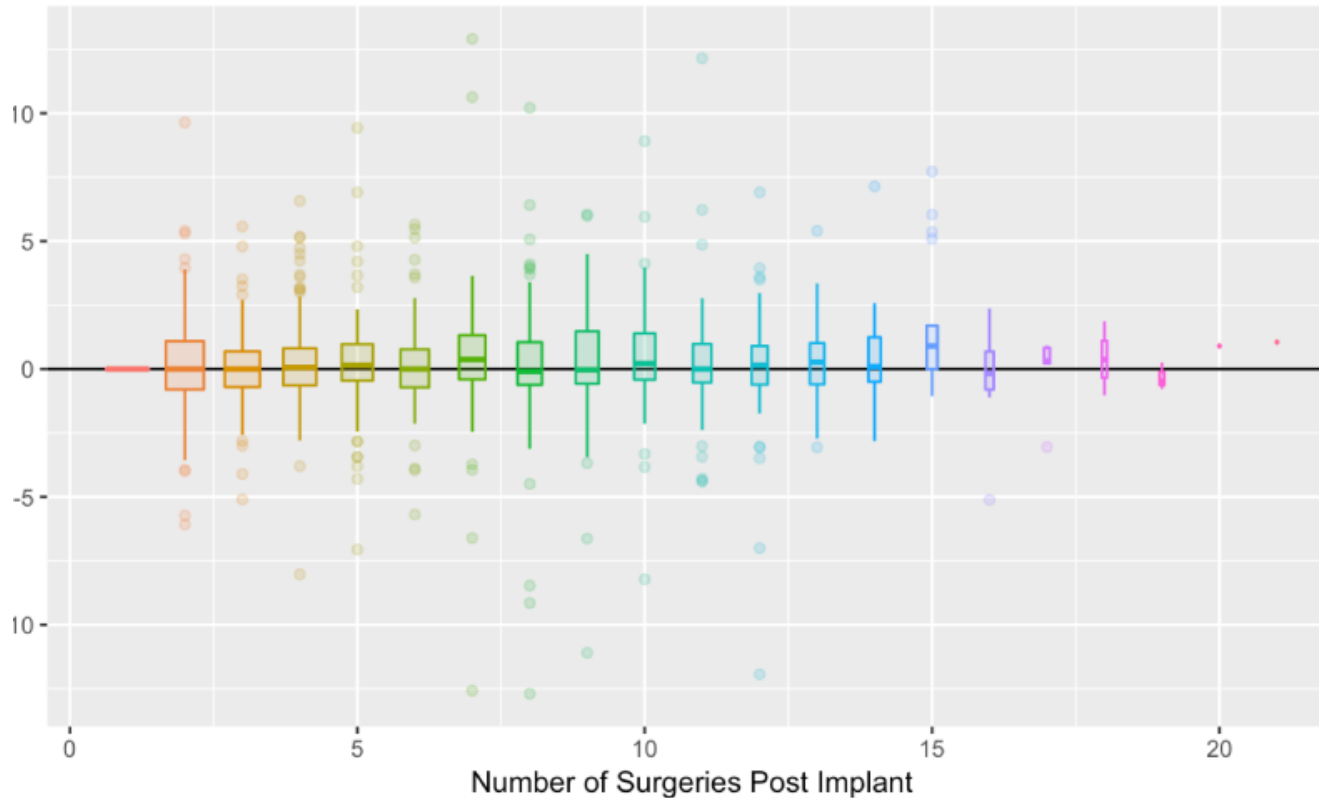
- Bowen, et al: JPO 2008: Decreased pulmonary function compromise strongly correlates to low BMI in patients with congenital thoracic scoliosis
- J Heart Lung Transplant 2007: Decreased graft survival in low BMI heart transplant kids
- Circulation 2017: Both obese and underweight kids at higher risk in congenital heart surgery
- J Heart Lung Transplant 2015: Low body mass index is associated with increased waitlist mortality among children listed for heart transplant

Surg

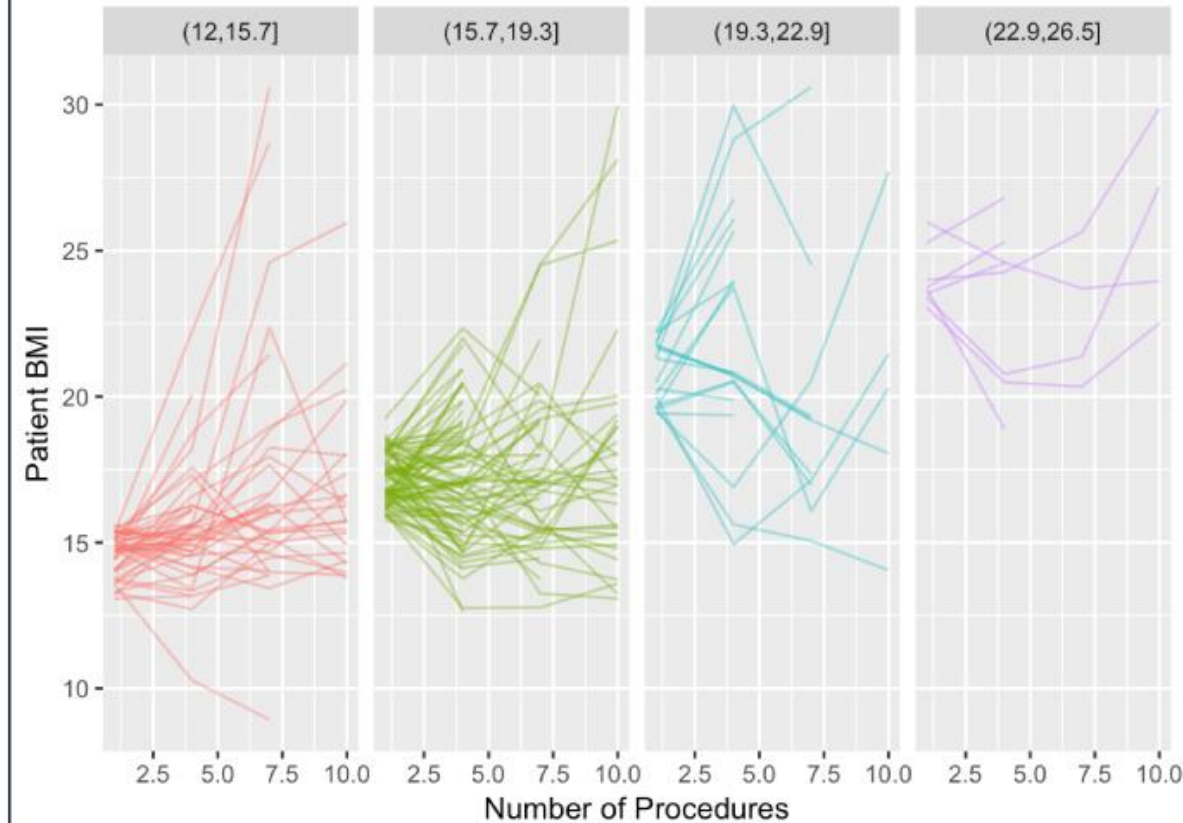
Challenging data: need hts for BMI
742 procedures kids with BMI <18.5 = 73%
Most very low; no clear trend up with treatment

CHOP CTIS db

BMI and Surgery Relationship



BMI and Surgery Relationship



Surgery & The Emaciated

CHOP CTIS db (Carina Lott, et al)

- 35 kids (10 with BMI < 5%) initial VEPTR insertion
- Same complications rates low v. normal BMI
 - Skin
 - SSI
 - Anchor failure

Surgery & The Emaciated

Is HGT the cure?

- Boston: Gomez. et al. JPO 2017: Staged Growing Rods With Preimplantation of Spinal Anchors for Complex Early Onset Scoliosis—8 pts with bad bone or signal loss. “Helpful”
- Wash U: Bogunovic Spine Deform. 2013: Preoperative Halo-Gravity Traction for Severe Pediatric Spinal Deformity: Complications, Radiographic Correction and Changes in Pulmonary Function— 33pts, 19/22 with PFTs had improvement
- ~ 20 HGT papers yesterday
 - Clearly value in certain deformities
 - Some pulm. value
 - Can you wait for the weight?

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Recommendations For The Emaciated

Recommendations

Delay! (the lesson of 20 yrs as EOS Surgeon)

- “Don’t rod the baby unless they’re dying”

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- “Don’t rod the baby unless they’re dying”
- You get ~5 years to drive growth
 - Start @ 3y/o: ribs break, spine is autofused by 8 y/o

Recommendations

Delay! (the lesson of 20 yrs as EOS Surgeon)

- “Don’t rod the baby unless they’re dying”
- You get ~5 years to drive growth
 - Start @ 3y/o: ribs break, spine is autofused by 8 y/o
 - Start @ 7-8 y/o: you might survive PHV

Recommendations

Delay! (the lesson of 20 yrs as EOS Surgeon)

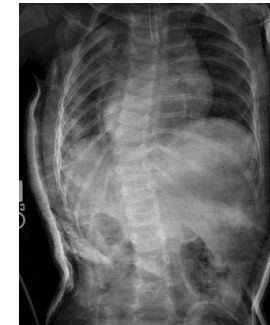
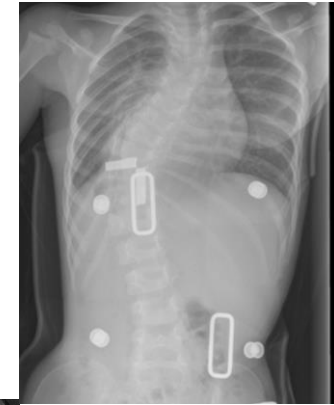
- Exhaust casting and bracing before instrumentation
- Delay tactics may impact pulmonary and feeding
- May contribute to Cycle of Doom
- HGT may help
 - Decrease implant complications
 - Improve pulmonary function



Recommendations

Logan

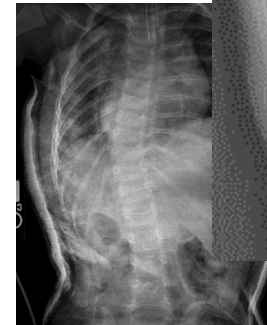
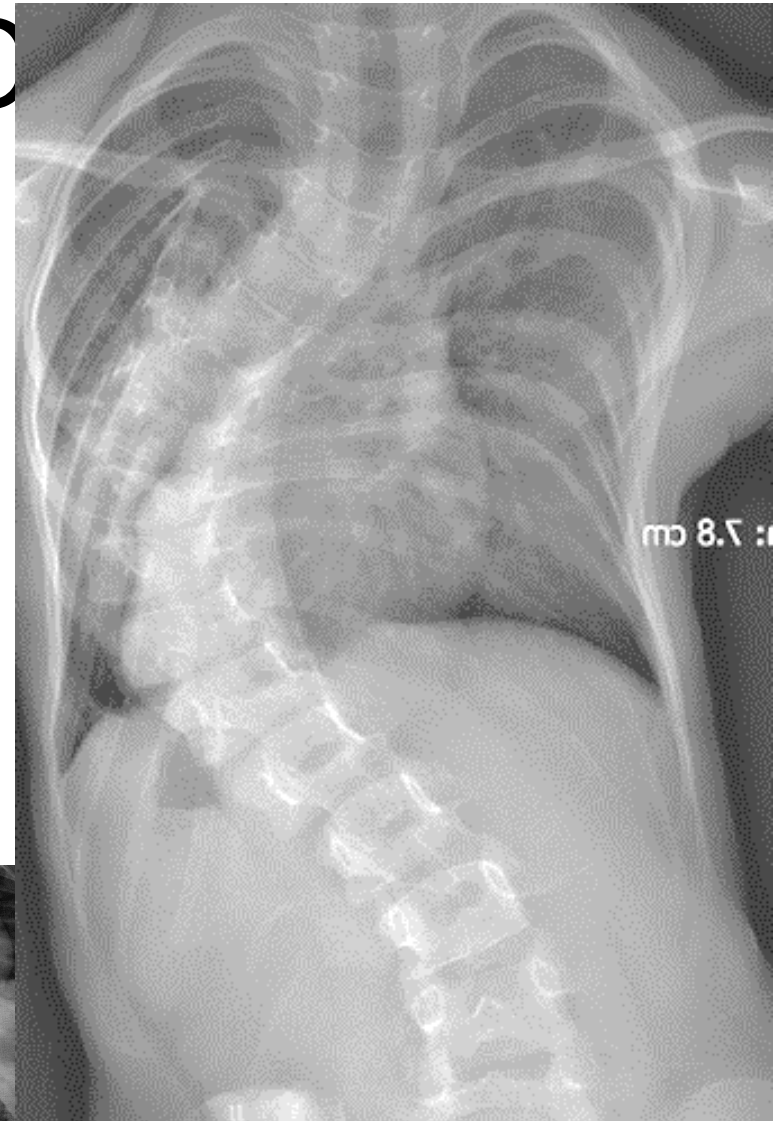
- Delayed from 1 y/o → 5 y/o
- Cast and brace impacted feeding and pulm



Recommendation

Logan

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- Can't wait any longer



Recommendation

Logan

- Delayed from 1 y/o → 5 y/o
- Cast and brace impacted feeding and pulm
- Can't wait any longer
- Last week he won “next available slot”
- He'll get some MAGEC in Feb. '19



Recommendation

Logan

- Delayed from 1 v/o → 5 v/o

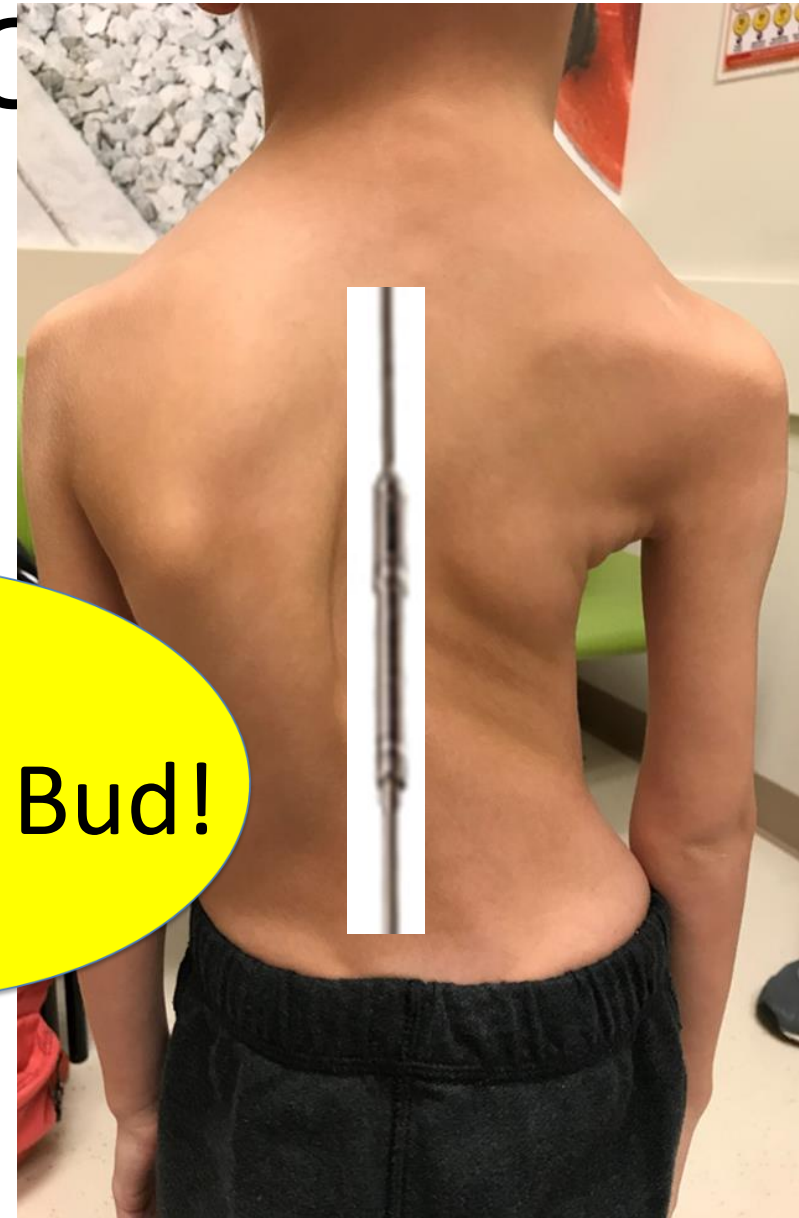


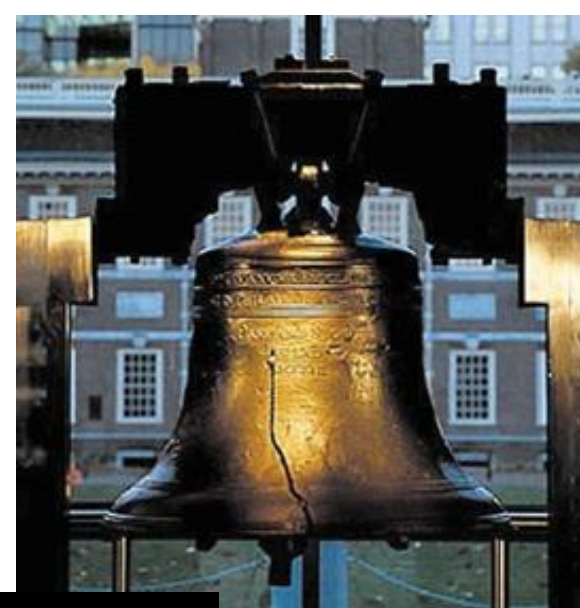
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ail

eb. '19

Good luck, Bud!





Obrigado!

