

OCTOBER 12, 2019

Pediatric Pelvic Floor Therapy

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Objectives: Just the Basics

1

What and
How?

2

Patient
population
types

3

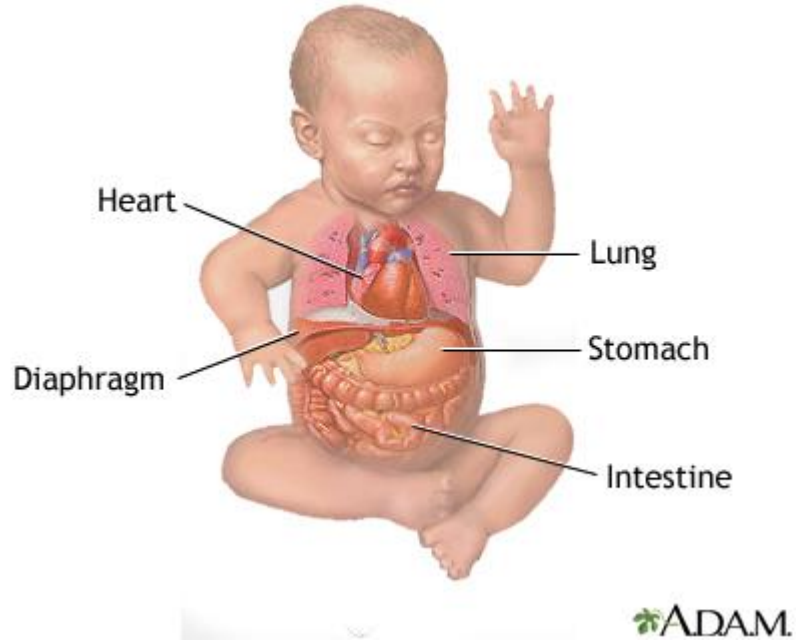
Multi-
disciplinary
Treatment
approach



Development of the Diaphragms²



- Diaphragms



Crawling and walking



3 months



6 months



9 months



12 months

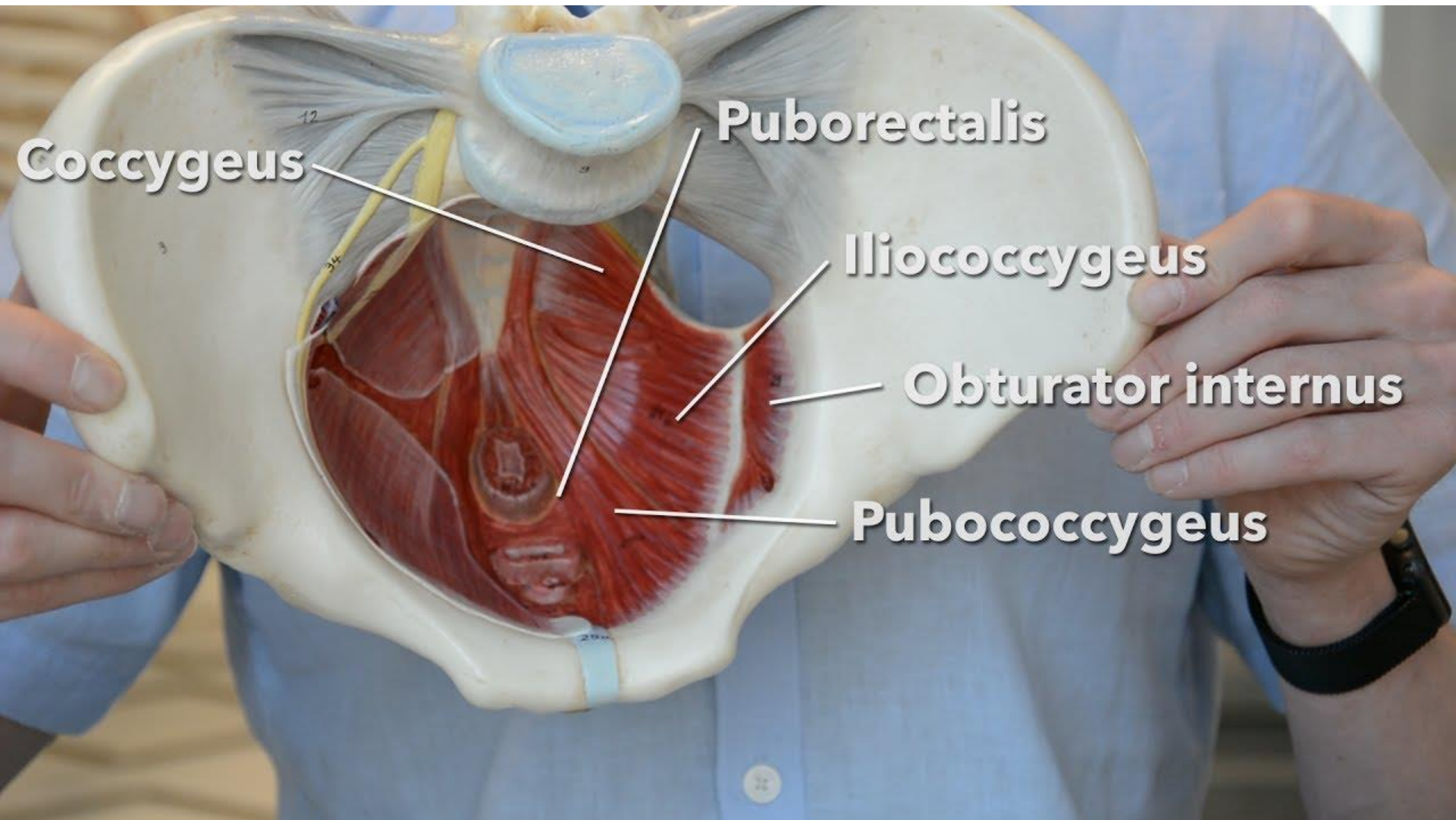


15 months



18 months





Coccygeus

Puborectalis

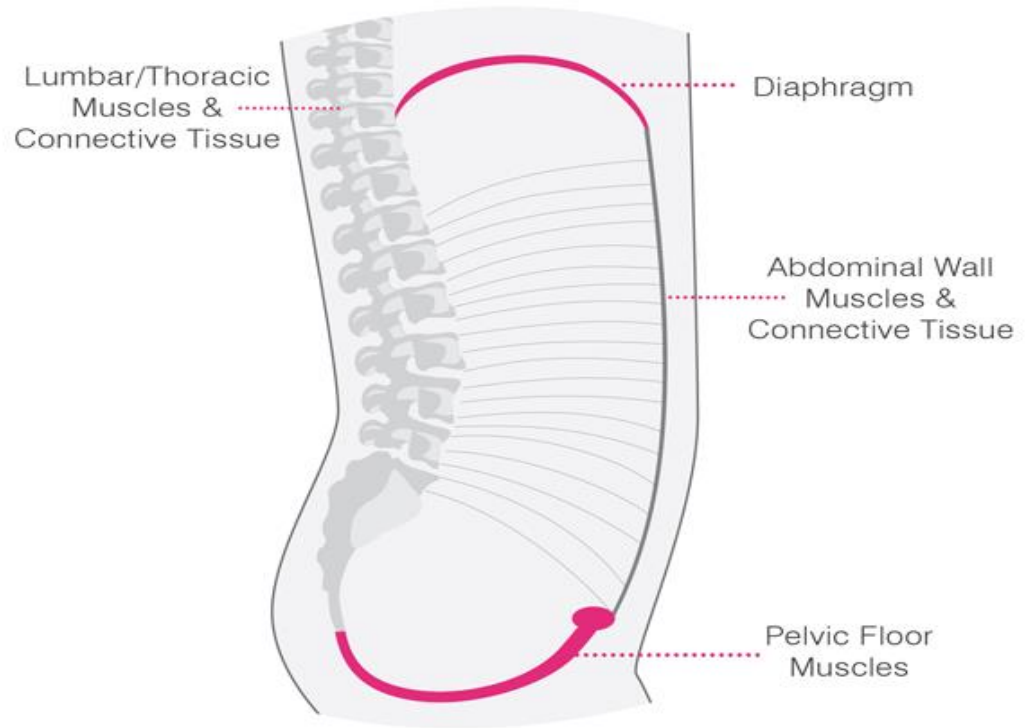
Iliococcygeus

Obturator internus

Pubococcygeus



Pressure System



Core Activation: The 'Expansion and Compression' cycle of the Core driven by the breath

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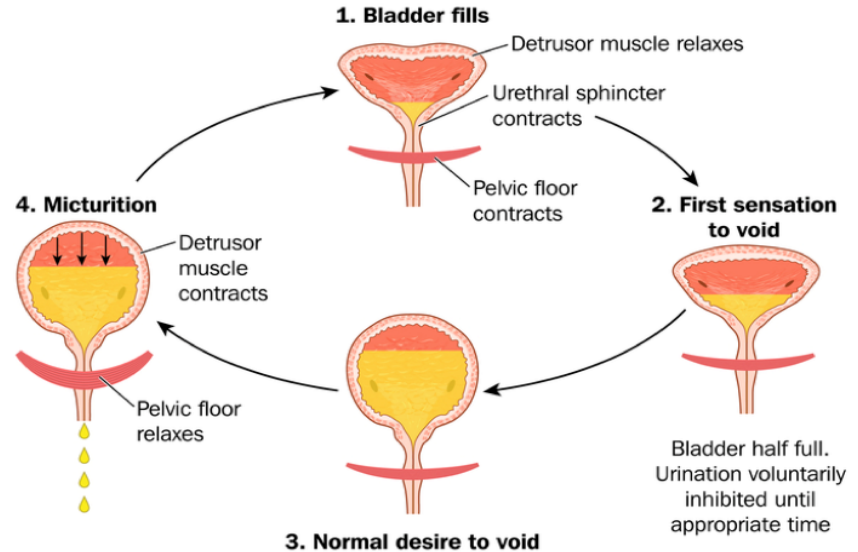
©Burrell Education 2012



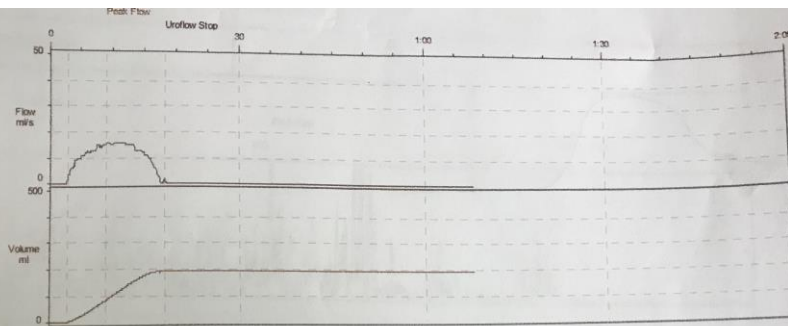
- Dysfunctional voiding^{3,4,5}

Urology

- UTIs
- Enuresis



Normal Uroflow



RESULT	VALUE	UNIT
Peak Flow (Qmax):	16.0	ml/s
Average Flow (Qavg):	12.0	ml/s
Voided Volume (Vvoid):	194.0	ml

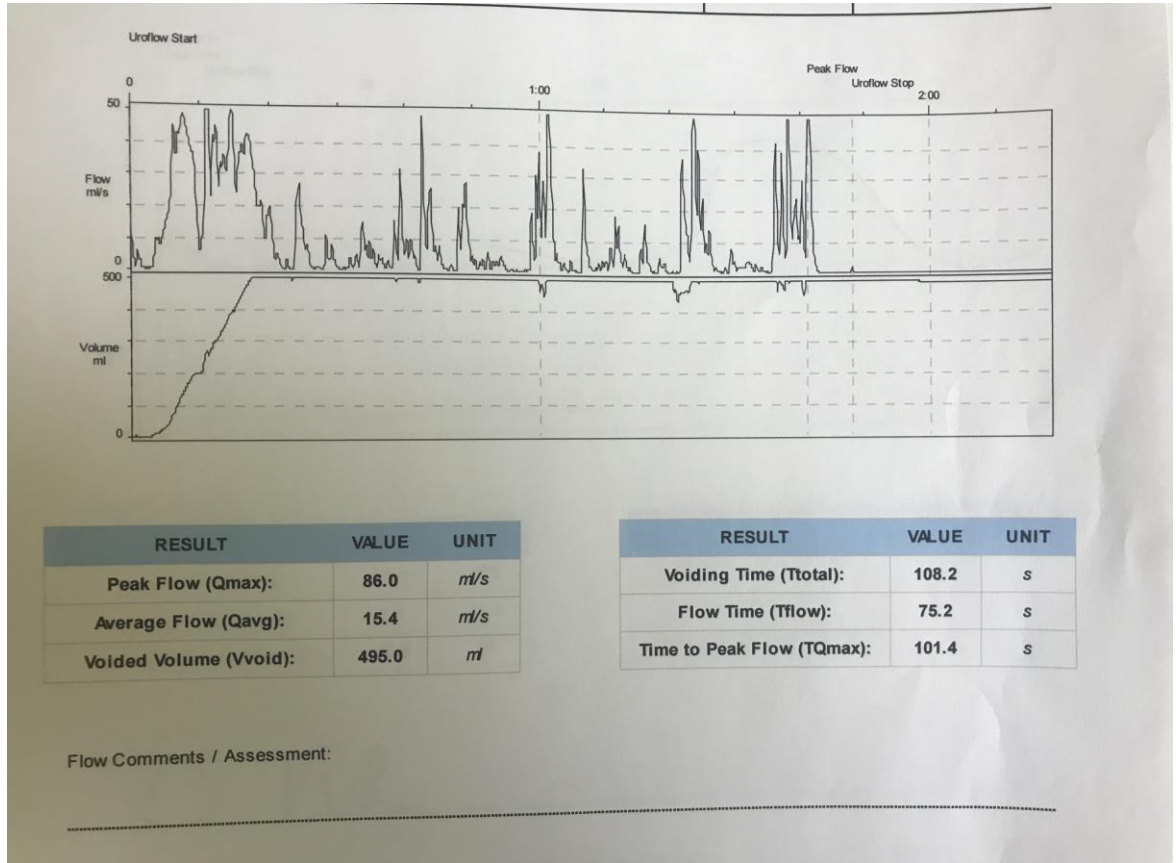
RESULT	VALUE	UNIT
Voiding Time (Ttotal):	15.4	s
Flow Time (Tflow):	14.7	s
Time to Peak Flow (TQmax):	6.2	s

Flow Comments / Assessment:

O RVE

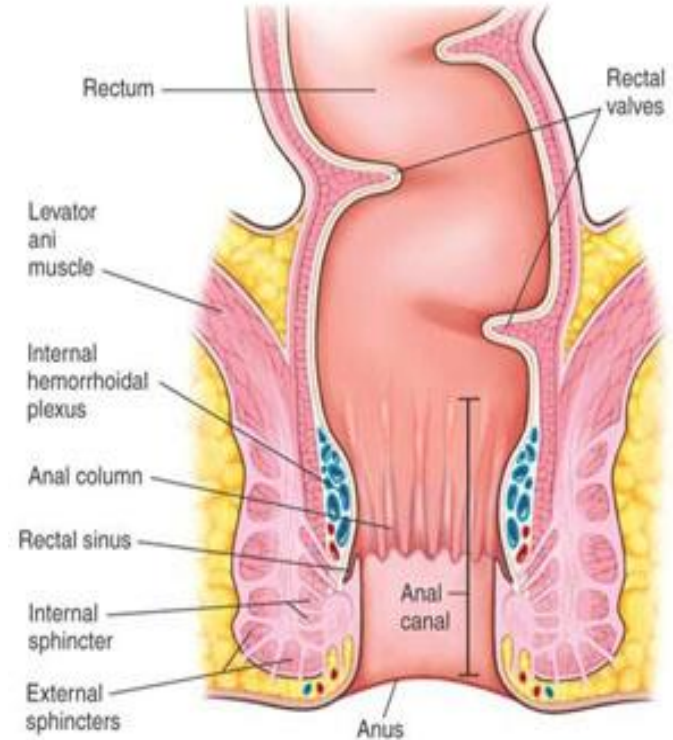


Abnormal Uroflow



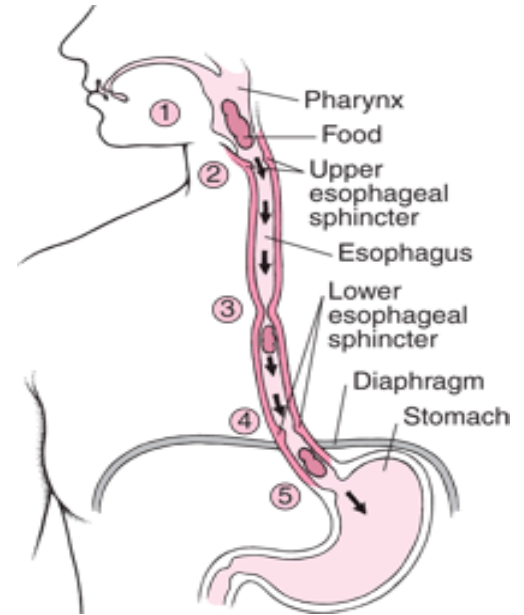
Lower GI

- Constipation^{8,9,10,11}
- Encopresis
- Abdominal Pain
- POTS/dysautonomia/EDS (upper and lower)



Upper GI

- Rumination Syndrome¹²
- Nausea
- Abdominal Pain
- Vomiting
- Reflux
- Dysphagia



Evaluation and Treatment

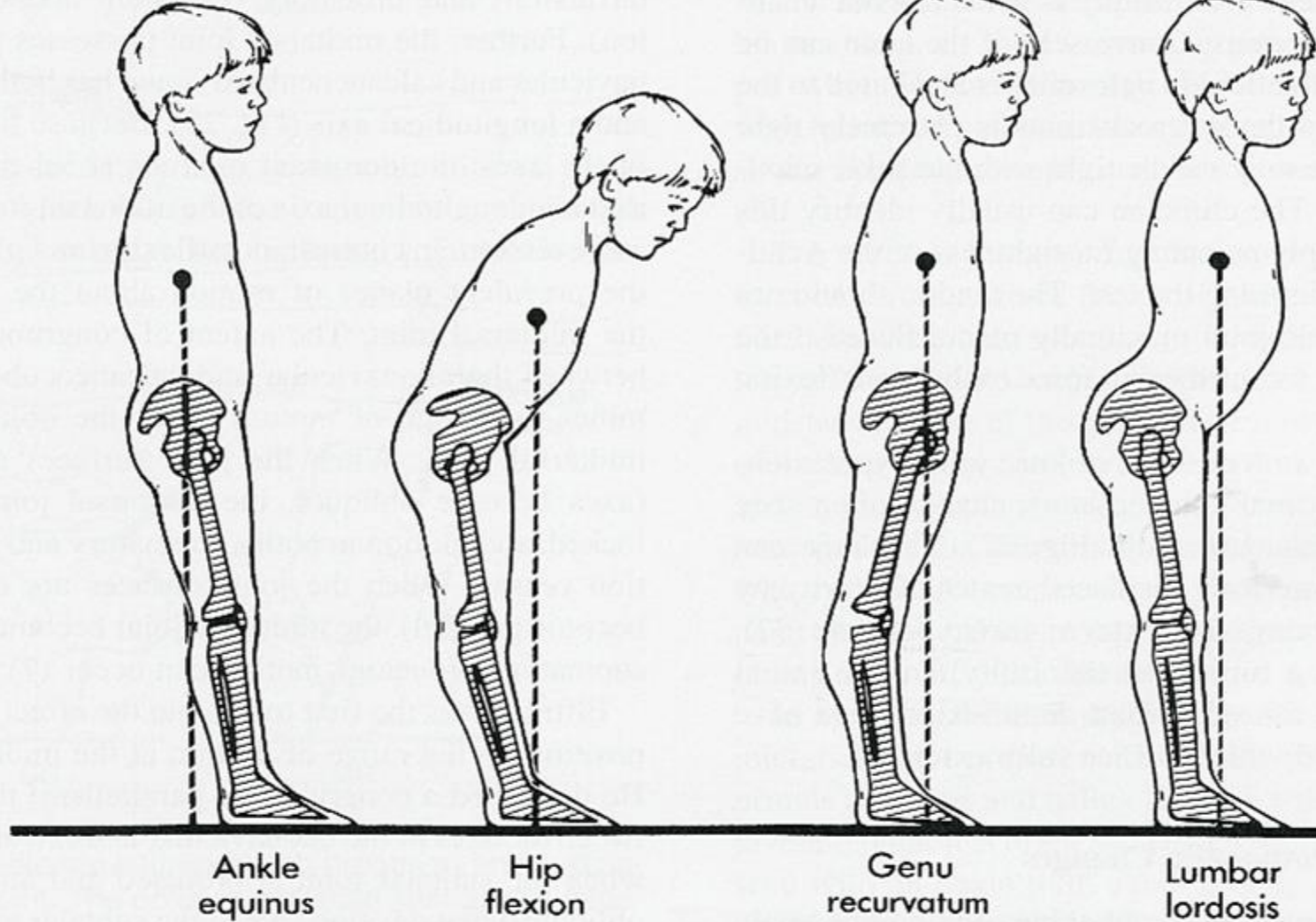


PT EVAL

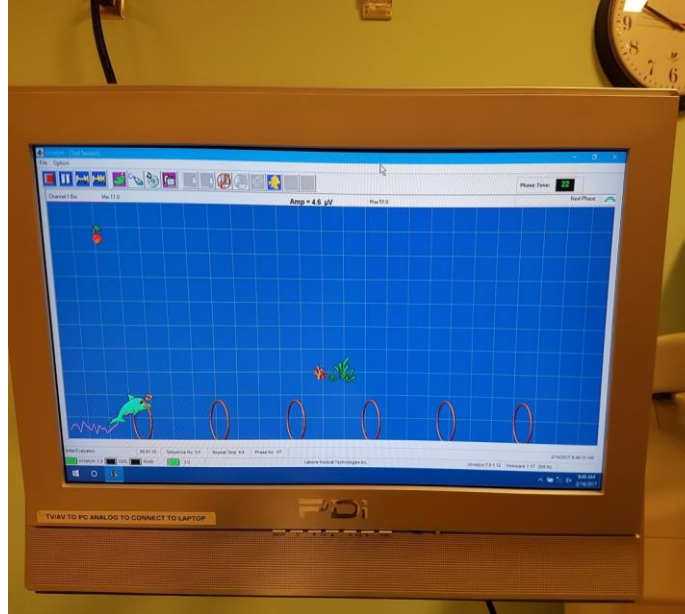
- Posture
- LE positioning: hips, pelvis, knees, feet
- Developmental Skills
- Reciprocation of Pelvis
- Gait pattern
- Balance: static, dynamic
- Biofeedback assessment



Pelvic and foot position²



Biofeedback Evaluation





Phase Time: 6

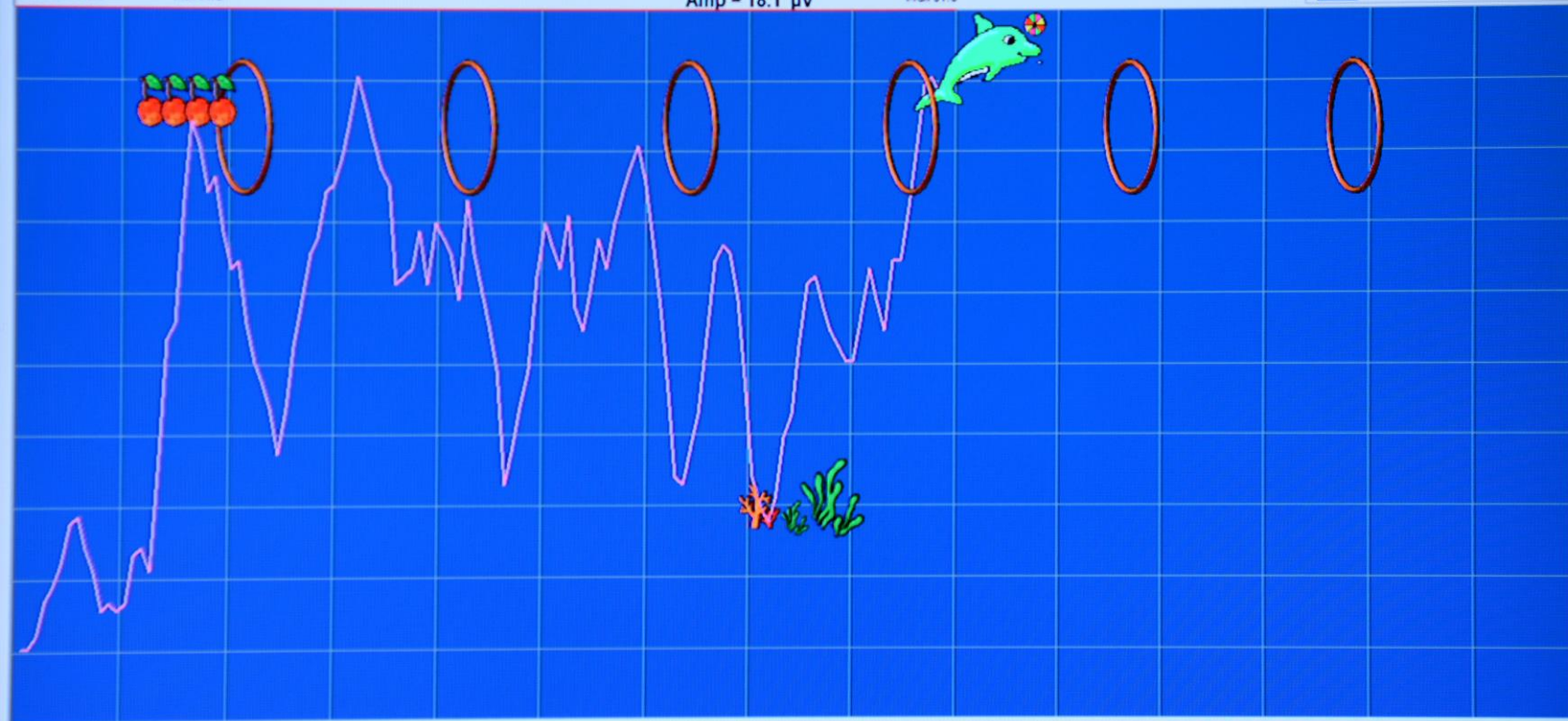
Channel 1 Bio

Min 11.0

Amp = 18.1 μ V

Max 31.0

Next Phase:



Initial Evaluation

00:00:41

Sequence No. 1/1

Repeat Time: 4/4

Phase No: 4/7

2/21/2017 1:38:54 PM

Urostym: 1.2

UDS:

MinID:

: 3 U

Labiore Medical Technologies Inc.

Urostym 7.0.1.12

Firmware 1.17 200 Hz

1:38 PM

2/21/2017



Dysfunctional Voiding

1

Responds best to biofeedback

2

Behavior modification, toileting

3

Avoiding constipation, proper
hydration



Lower GI

1

Behavioral modification

2

Pelvic floor identification

3

Pelvic stabilization, muscle
imbalances



Upper GI

1

Behavioral Modification

2

Timed breathing, Diaphragm

3

Proximal stabilization, muscle
imbalances



Pelvic Stabilization Exercises

1

Hip openers

2

Proximal stabilization

3

Stretching!



A PELVIC HEALTH HANDBOOK FOR GIRLS

Below Your Belt



How To Be
Queen of Your
Pelvic Region

Missy Lounder



PELVIC FLOOR STRENGTHENING EXERCISES

FITMOMMYFITFAMILY.COM

ASSISTED HEEL DROPS



DEAD BUG



BRIDGE



BIRD DOG





Medical Treatments

1

Medication

2

Urinary
botox

3

Pyloric and
anal botox



It's not just PT!



Use Your Resources

1

OT: sensory

2

Psychology:
CBT

3

Self massage
for
constipation

4

Infant
massage for
constipation

5

Yoga:
things that
make you
go poo

6

Biofeedback



CBT, botox

Assessing the Effectiveness of Combined Behavioral Therapy and Anal Botox Injections for Treatment for Chronic Idiopathic Constipation in Children: A Retrospective Chart Review.

Kent Rosenwald, MD; Jamie Belkind-Gerson, MD, Juliette Hawa, PT, DPT, Andrew Brazell, BS



Literature supports...

Pelvic floor physical therapy with or without associated biofeedback therapy have been demonstrated to be effective behavioral modification techniques in managing chronic constipation⁸⁻¹⁹.

Pelvic floor physical therapy is particularly suited to treating dyssynergic defecation (paradoxical increase in sphincter tone with attempted defecation) and voiding dysfunction³⁻¹⁹.

Pelvic floor physical therapy has demonstrated benefit above standard medical therapy in individuals with both functional constipation and more specifically those with dyssynergic defecation. Biofeedback therapy similarly has demonstrated benefit in individuals with constipation with pelvic floor dysfunction in several retrospective or observational studies and randomized controlled trials.

Rosenwald, Belkind-Gerson, Hawa, Brazell



Literature supports...

In a trial of patients with voiding dysfunction, patients who received both biofeedback and pelvic floor physical therapy exercises plus standard behavioral modification recommendations (hydration, fiber intake, scheduled voiding) had significant improvement in fecal soiling (100% vs 20% improvement) and constipation (68% vs 40% improvement) compared with patients who only received the standard behavioral modification recommendations.

Rosenwald, Belkind-Gerson, Hawa, Brazell



- Case Studies

Aidan

Nocturnal Enuresis, initially small PVR
<10%, slight decreased flow rate at 9
ml/sec

No difference with/without treatment,
pharmacology

Courtney

Nocturnal Enuresis, PVR > 10%,
decreased flow rate at 5 ml/sec

After 6 weeks of biofeedback,
significant difference with treatment,
no pharmacology



Avery

day incontinence, dysfunctional
voiding

night enuresis

PVR > 10 %, decreased flow rate 6
m/sec

After 6 weeks of biofeedback, no day
accidents, sporadic night accidents,
continued with >10% PVR



Aubrey

Cecostomy

Difficulty stooling even with daily
flushes

Performed initial 6 visits in 6 weeks;
reduced to every other week then
monthly over 6 month time period

Stooling on her own, only flushing 1
time per week or as necessary

Cecostomy projected to be out over
the next year pending continued
success



Complex patients

Katelyn:

POTS, EDS, Dysautonomia diagnoses

Constipation

Body awareness

Kinesiotaping

Orthotics

Send to Christy and Emily for Levine protocol!



References

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4. Efficacy of biofeedback-assisted pelvic floor muscle training in females with pelvic floor dysfunction. Ibrahim Khalil Ibrahim^a, et al. Alexandria Journal of Medicine. Volume 51, Issue 2, June 2015, Pages 137-142
5. Biofeedback therapy for children with dysfunctional voiding. Combs AJ¹, et al. Urology. 1998 Aug;52(2):312-5.
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Questions? Quiz Questions

According to the literature, which child is most appropriate for biofeedback as the primary method of treatment?

- Athlete with Dysfunctional voiding
- Athlete with stress incontinence
- Athlete with hip dysplasia and constipation

Please select the treatment or treatments appropriate to use with patients who have stool incontinence?

- Scheduled "Poop sits", usually following meals
- Glut strengthening
- Pelvic stabilization
- All of the above

Why is anal botox used to treat constipation?

- it allows relaxation of internal sphincter to allow patient to pass stool more easily
- it allows shrinking the rectum/colon to normal size
- it contracts the internal sphincter to allow patient to pass stool more easily

