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May 15th, 12:30 PM - 12:45 PM

Bowel Clean Out Prior to Intrathecal Baclofen Pump Implantation: Effects on Acute Post-Operative Gastrointestinal Complications

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Lindenberg, Amanda; Vadivelu, Sathya; Walton, Brittini; and McLaughlin, Matthew J., "Bowel Clean Out Prior to Intrathecal Baclofen Pump Implantation: Effects on Acute Post-Operative Gastrointestinal Complications" (2024). *Research Days*. 3.

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**BOWEL CLEAN OUT PRIOR TO
INTRATHECAL BACLOFEN PUMP
IMPLANTATION: EFFECTS ON ACUTE
POST-OPERATIVE GASTROINTESTINAL
COMPLICATIONS**

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GME Annual Research Days
May 15, 2024

DISCLOSURES

I do not have any financial disclosures

I have no conflicts of interest

COLLABORATION

Thank you to my mentors and excellent team members

Dr. Sathya Vadivelu

Dr. Matthew McLaughlin

Brittini Walton ,RN

BACKGROUND INFORMATION

It is well known that individuals with disorders affecting the central nervous system, hypertonicity, spasticity, and movement disorders are more likely to have neurogenic bowel which can lead to constipation and lack of stool.

Neurogenic bowel can worsen post-operatively in the setting of intra-abdominal procedure, immobility, and pain medications.

SPASTICITY

Spasticity is defined as a VELOCITY DEPENDENT resistance to muscle stretch

Spasticity is the most common form of hypertonicity in children with cerebral palsy.

- They may also have a secondary movement disorder such as dystonia or choreoathetoid movements.

Spasticity is also a common form of hypertonicity in children who sustain a spinal cord injury and traumatic brain injury

DYSTONIA

Children with cerebral palsy may also have a secondary movement disorder such as dystonia or choreoathetoid movements.

Involuntary movement

- May look like twisting, locking, or repetitive postures

Caused by co-contraction of muscles

Worsened with concentration, stress, illness, noxious stimuli, and excitement

INTRATHECAL BACLOFEN

Used since the 1980's for spasticity management.

Baclofen is a GABA agonist.

Intrathecal administration acts presynaptically and limits sedation/somatic effects of oral baclofen.

Paucity of data on intrathecal baclofen pump and immediate post-op complications such as gastrointestinal (GI) adverse effects

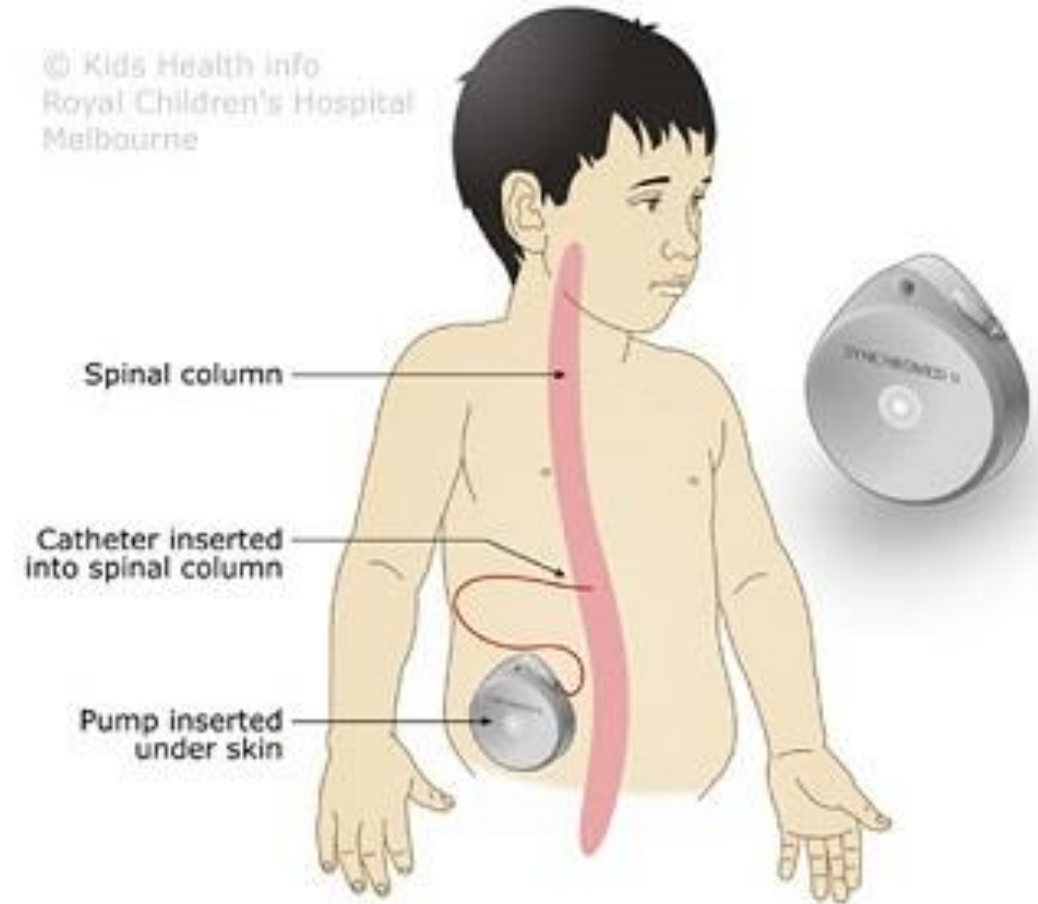


Photo obtained from
(4/30/2024): https://www.rch.org.au/kidsinfo/fact_sheets/Intrathecal_baclofen/

AIM/PURPOSE

Compare patients who underwent a pre-operative bowel cleanout to those and who did not and the relationship with post-operative complications such as nausea, vomiting, and constipation

Evaluate the relationship between groups with respect to constipation and those requiring an escalation of their bowel regime post-operatively.

STUDY DESIGN

- Retrospective Chart Review
- Data from January 2015- December 2022
- Inclusion Criteria
 - New intrathecal baclofen pump placement
 - Intrathecal catheter placement/replacement
- Exclusion criteria
 - Pump replacement only

HEAD OF BED PROTOCOL

Head of Bed protocol was implemented on 4/05/2017

Children who undergo new intrathecal catheter placement remain flat for 72--> 48 hours to avoid cerebrospinal fluid leak and side effects of a CSF leak.

Slowly increase by 15 degrees every hour as tolerated

If does not tolerate, then will go back to last step without adverse effects

BOWEL CLEAN OUT

Polyethylene
glycol three times
a day for 3
days

Fleet's Enema
nightly for 3
days

RESULTS

	Emesis	No Emesis
Cleanout	38	23
No Cleanout	15	21

62% of patients that underwent ITB pump implantation and/or revision of catheter were instructed to complete a bowel cleanout.

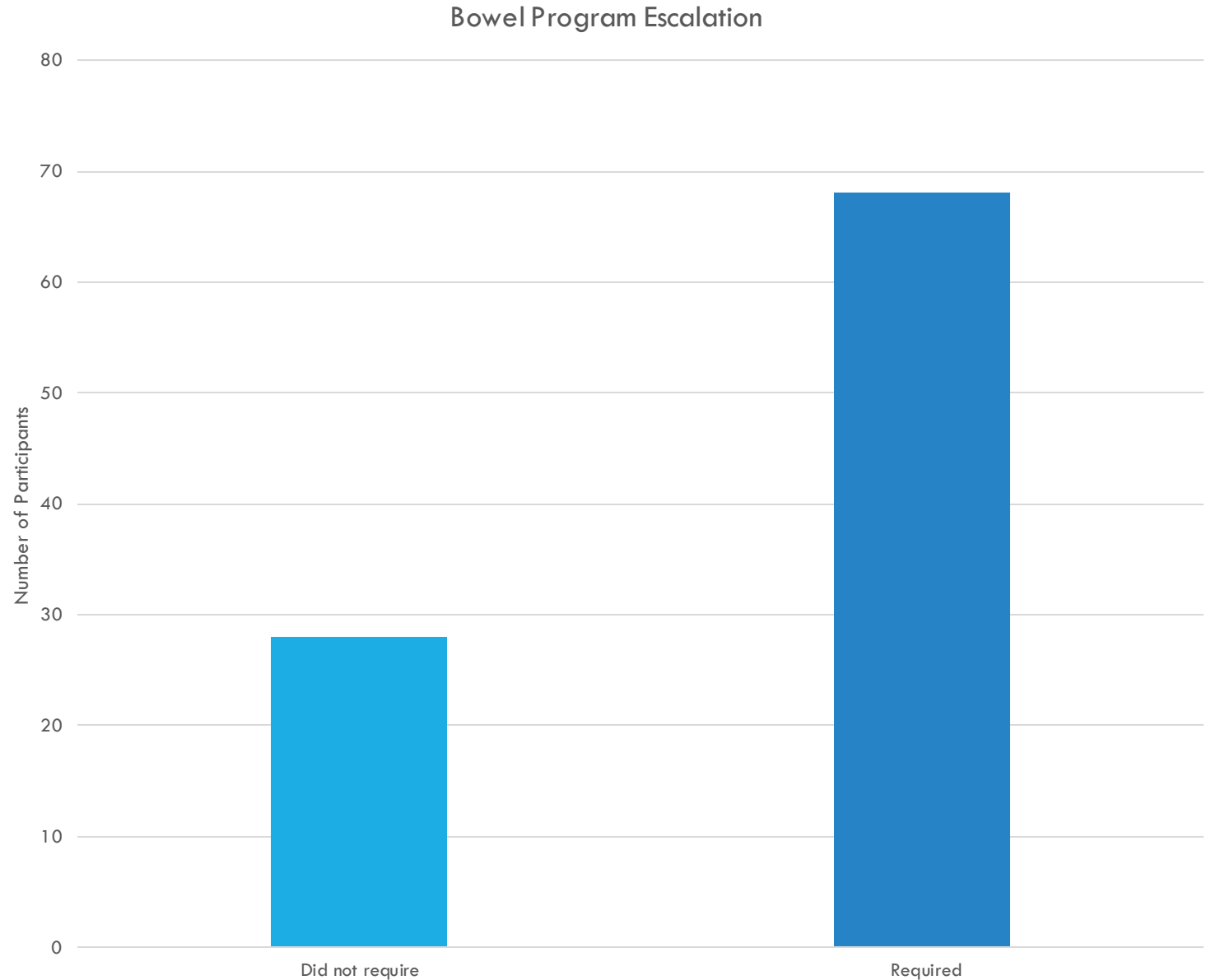
58 of 92 patients had post-operative constipation

Significant findings :

Those who did not undergo cleanout had less emesis ($p=0.049$)

RESULTS CONTINUED

A chi-square test of independence demonstrated there was no significant relationship between performance of a cleanout and the need to increase their bowel regimen post-operatively (chi squared value = 0.0062, $p=0.937382$).



STUDY LIMITATIONS



Retrospective Study



Date of protocol
initiation

Prior to 2017,
there was no
consistent head
of bed or bowel
cleanout protocols

WHERE DO WE GO FROM HERE?

Prospective study including a randomized controlled trial

Multi-center study

SUMMARY

Most children have constipation post-operatively require escalation of their bowel regimen.

Constipation can also contribute to emesis which may limit head of bed elevation as emesis is a symptom of cerebrospinal fluid leak.

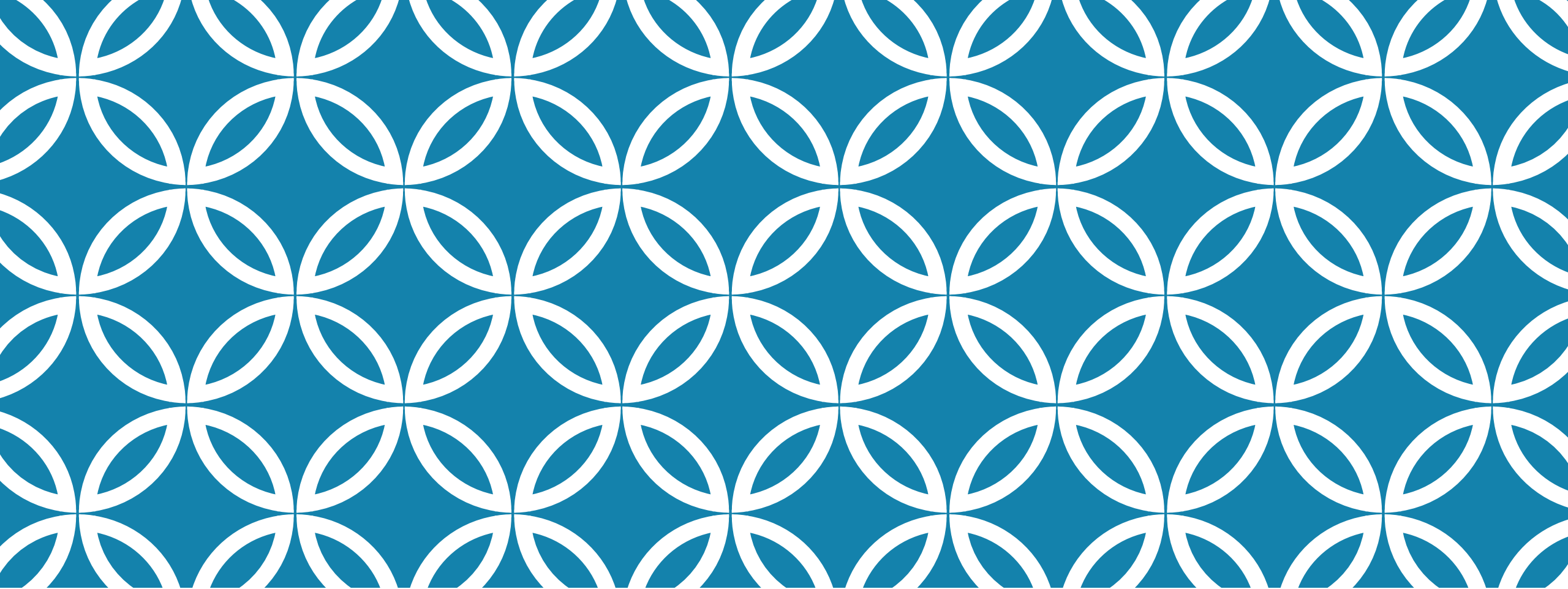
Therefore, it is recommended to increase a patients bowel regimen immediately post operatively

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QUESTIONS?

Thank you for taking time to
hear about our project!