

TOILET TRAINING

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DISCLOSURE STATEMENT

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OBJECTIVES:

- Define Toilet training
- Classify Signs of Readiness and Developmental Skills
- Illustrate Variety of Training Methods
- Identify Challenges
- Modify Training Methods for Special Populations
- Recognize Fecal Incontinence



WHAT IS TOILET TRAINING?

- "The mastery of skills n time and manner" - Kla
- It involves the converge
- A major developmental Pediatrics. 1962



ng in a socially acceptable

evelopmental domains

is/her family - Brazelton, T.



WHEN DOES TOILET-TRAINING OCCUR?

- Developmental maturation predicts the ability to toilet train (i.e. all skills present) is between 18 and 30 months.
- Changes in U.S. over the last 100 years, average age in 1920s was 18 months and in 2000s average age for boys is 39 months and girls is 35 months
- At 12-18 month general pediatrician visit providers should discuss toileting
 - parents' perceptions
 - expectations
 - time limitations
 - considerations for methods



READINESS SIGNS OF TOILET TRAINING



- 1. Imitates behavior
- 2. Sits stable, without help
- 3. Walks without help
- 4. Picks up small objects
- 5. Can say "no"
- 6. Has control over bowel /bladder
- 7. Follows simple commands
- 8. Indicates the urge to go
- 9. Puts things in containers
- 10. Awareness of the need to void
- 11. Understands potty-related words
- 12. Interest in toilet training
- 13. Has a bigger bladder capacity
- 14. Is proud of new skills
- 15. Asks for the potty
- 16. Wants to be clean
- 17. Wants to wear grown-up clothes
- 18. Able to pull clothes up and down;
- 19. Bowel movement-free overnight;
- 20. Put things where they belong;
- 21. Sits on the potty for 5–10 min.

Kaerts et al. Neurourol Urodyn. 2012

DEVELOPMENTAL SKILLS REQUIRED FOR TOILET TRAINING



POTENTIAL MECHANISMS

Developmental domain	Potential Pitfalls
Gross motor	Transfer skills
Fine motor	Self-care skills
Physiologic/neurologic	Disordered sensationDisordered control
Cognitive	Symbolic understandingAgency
Communication	InformingAdvocacy
Social / Emotional	 Motivation Independence vs. parental demands Punitive attitude
Self-regulation	Attention (to above)Execution

HOW TO TOILET-TRAIN?

- Two major methods:
 - Child-oriented method
 - Brazelton, 1962
 - Parent-oriented (behavioral training) method
 - Azrin and Foxx, 1971
- Both shown to be effective
- AAP recommends child-oriented method for most children
- Parent-oriented method effective for children with developmental delay
- Other methods
 - Assisted infant method AKA Elimination Communication
 - Potty parties
 - Staged Toilet Training



BRAZELTON'S CHILD-ORIENTED METHOD

- 1. Familiarity with the potty
- 2. Sit on potty while fully clothed
- 1. Sit on potty without a diaper
- 2. Empty diaper contents into the chair
 - explaining this is where eliminations go
- 3. Increase potty opportunities
- 4. Encourage independent use
- 5. Transition to training pants





Independence

AZRIN AND FOXX'S PARENT-ORIENTED METHOD

- 1. Increasing fluid intake (for urination)
- 2. Scheduling toilet training time
- 3. Positive reinforcement of correct behavior
 - Examples: approaching potty, grasping pants, sitting on potty, etc.
 - Immediate and varied praise and/or rewards
- 4. Behavioral-chaining as needed to shape toileting procedure
- 5. Over-correct accidents
 - Verbal reprimand, omit reinforcement, have child change wet pants to dry ones by him or herself, conduct 10 rapid "positive practice" sessions



MORE THAN 2 MILLION COPIES SOLD!

ASSISTED INFANT TOILET-TRAINING METHOD

- Early Elimination Toilet Training method
 - A.K.A. assisted infant toilet-training, elimination communication
 - Common in many developing and "non-western" parts of the world; including: China, India, Africa, South America, Central America, parts of Europe
- Based, in part, on principles of classical conditioning
 - 1. Begins at 2-3 weeks of age
 - 2. Parent learns the infant's elimination signals ("parent training")
 - 3. Infant is place in a special position and the parent makes a noise the infant associates with voiding/stooling

Klassen et al. AHRQ. 2006

- 4. Success is rewarded
- 5. Accidents are ignored

POTTY PARTIES

- Often used technique by "potty trainers"
- Different variations as not evidence based method
- Large party thrown with friends after training complete
- Individual part thrown with parent and child to celebrate each successful use throughout the day



STAGED TOILET TRAINING

- The Potty Chair
 - used as a diagnostic tool to assess readiness and desire to train
- Reminders & Reinforcement
 - Praise/Reward success
- Diapers
 - With daytime continence start removing daytime diaper at home
 - With nighttime continence trial diaper removal at nights
 - Nighttime training can take months ot years sometimes because the child's sleep cycle needs to mature wo child can awaken in time to urinate
- Regression
 - setbacks are expected, especially with change or stress

HOW LONG DOES TOILET-TRAINING TAKE?

- U.S. kids in the 1990s and 2000s (Blum et al. 2003)
- Initiation before 27 months
 - Age of toilet-training the same age regardless of age of initiation
 - Started closer to 27 months: 9-10 months
 - Started closer to 18 months: 12-14 months
- Initiation after 27 months
 - Age of toilet-training correlations with age or initiation
 - Started between 30-33 months: 6-8 months
 - Started after 33 months: 4-6 months
- Developing countries
 - Average 6-7 months at any age



Potty Training Around The World

- U.S.A
 - Use of disposable diapers
 - Shift to more child-oriented train
 - China
 Cultural expectations for when
 Split-crotch pants of school
 - - Pants split do
 - No need to p to urinate or
 - Diaper Free Babie Vietnam
 - Similar to Keny
 - Rare use of diaRfs posable d •
 - From birth parents monitore. • bowel/bladder and time interva-• Cultural expectations for wire When signs noticed, mother places in
 - whistling sound
 - By 9 mo whistling sound signalled cue to urinate/stool •
 - Most children trained by 24 mo .

- Kenya (Digo Population • Turken
- after feeding/napping for signs of
 - ent increased with the level of d on mother's lap as she sat
 - ning Method starts at 12 mo let on regular intervals at parent determined age es certain milestones (walking/interest in toilet)
 - hindposition by 4-5 months
 - priented training techniques
- tions for when to start usually related to start akes



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Gastrocolic Reflex

- Physiologic Reflex that controls motility or peristalsis of the GI tract following a meal or in the mornings
- Electrical activity seen throughout digestive tract within 15 mins after eating
 - Sigmoid colon most impacted to propel food distally into rectum
 - Neuropeptide mediators: Serotonin, Neurotensin, Cholecystokinin, Prostaglandin E1, and Gastrin
- Coffee can induce the same response within 4-30 mins after consumption

FACTORS ASSOCIATED WITH TOILET-TRAINING SUCCESS

- Older age (of child)
- Non–Caucasian race
- Female gender (of child)
- Single parenthood
- Lower family income
- Use of potty chair
- Culture



FACTORS ASSOCIATED WITH DIFFICULT OR DELAYED TOILET-TRAINING

- "Difficult temperament"
- Constipation
- Dysfunctional parenting styles (laxness, overreactive, verbose)
- Delayed initiation of toilet-training, after age 36 months
- Toileting refusal
- Toileting avoidance (hides during defecation)
- Younger sibling
- Lower language skills at 18 months
- Developmental delay or cognitive delay



SPECIAL POPULATIONS

- "It's a marathon not a sprint!"
- Children with special health care needs often need additional effort and attention
- Do not respond to traditional methods
- Need strict routines
- Consideration of visual disabilities, physical challenges, hearing disabilities, cerebral palsy, spina bifida, spinal cord injuries, behavioral disorders



AUTISM

- On average, children with ASD require 1.6 years of toilet training to stay dry during the day and sometimes more than 2 years to achieve bowel control.
- The key to success: Keep language simple and keep toileting routines the same
- Method: Trip Training AKA Schedule Training
 - Sit for 6
 - Don't ask
 - Schedule
 - Communicate
 - Keep trying
 - Make visual schedule
 - Identify rewards

Physical: There may be a physical or medical reason for toileting difficulties. Discuss these issues with your child's pediatrician.

Language: Children with ASD have trouble understanding and using language. Do not expect a child with autism to ask to use the toilet.

Dressing: Some children with ASD have difficulty pulling their pants down or pulling them back up.

Fears: Some children with ASD are afraid of sitting on toilet seats or hearing toilets flush. Getting used to the toilet by using a visual schedule and making it part of the routine can make it less scary.

Body cues: Some children with ASD may not be aware that they need to go or that their clothes are wet or soiled.

Need for sameness (aka routine): Many children with ASD already have their own ways of urinating and having bowel movements. Learning new ways to toilet may be hard.

Using different toilets: Some children with ASD learn a toileting routine at home or school, but have a hard time going in other places such as public restrooms.

INTELLECTUAL DISABILITY

- Signs of potty training readiness are the same for all children
 - Developmentally delayed children may achieve their various milestones at different ages
- Check diaper hourly to estimate their routine
 - Use simple words "wet" "dry" "poop" to describe state
- Becomes easier with at least a minimal level of verbal ability
- Keep explanations simple
- Model the behavior for them/Take them along when caregiver goes
- Limit steps to one at a time
- Focus on actual act of Urination or Defecation, then address other skills
- Reward success
- Setbacks are inevitable

FECAL INCONTINENCE

- Encopresis, soiling:
 - "The repeated passage of stool into inappropriate places by a child who is older than 4 years of age chronologically and developmentally"
- Prevalence of 4.4% of children 4-17 in U.S. and Europe
 - 4.1% in ages 5-6
 - 1.6% in ages 11-12
- Associated with constipation in 90-95% cases
- Boys > Girls
- 3%–5% of general pediatric outpatient visits
- Up to 25% of pediatric gastroenterology consultations
- Positive family history in 28%–50%
 - Monozygotic > Dizygotic twins



Schonwald et al. Pediatr Rev. 2004; Benninga et al. Arch Dis Child. 1994; Rasquin et al. Gastroenterology. 2006; Van der Wal et al. J Pediatr Gastroenterol Nutr. 2005; Bongers et al. J Pediatr Gastroenterol Nutr. 2007; Loening-Bauke et al. Arch Dis Child. 2007; Morris-Yates et al. Am J Gastroenterol. 1998

PATHOGENESIS OF FUNCTIONAL CONSTIPATION



NON-RETENTIVE FECAL INCONTINENCE

- ATTENTION PROBLEMS
- ANXIETY
- DEPRESSION
- LEARNING DISORDERS
- LONG-STANDING, UNDERLYING ISSUE
 - FAMILY HISTORY, 20%
 - NEVER TOILET-TRAINED, 30-40%



DEFINITIONS

DSM-5

- A. Repeated passage of feces into inappropriate places, whether involuntary or intentional
- B. At least once a month for 3 months
- C. Developmental age \geq 4 years
- D. Not attributable to medication or a medical condition other than constipation

Specify <u>with</u> or without constipation and overflow incontinence

Rome III (International)

Functional constipation

- 2 or more of the following at least once per week for 2 months:
 - 2 or fewer BMs in toilet per week
 - 1 ep. of fecal incontinence per week
 - Stool retention or posturing
 - Painful or hard BMs
 - Large fecal mass in rectum
 - Stools that obstruct the toilet
- May have accompanying symptoms that disappear immediate following passage of large stool
 - E.g. irritability, ↓ appetite, early satiety
- Developmental age \geq 4 years

HISTORY

- Stooling pattern
 - Frequency, volume, consistency of bms
 - Frequency and type of soiling
 - Where it occurs
 - Ability to identify and communicate urge
 - Withholding or avoidance
 - Associated symptoms
- Toileting history
 - Initial passage of stool
 - Patterns in infancy and toddlerhood
 - Duration of problems
 - Previous solutions
- Review of medical and psychosocial function



History	Symptoms consistent with Functional Constipation	Red Flag Symptoms
Age at meconium passage	Within 48 hours of birth	>48 hours
Stool characteristics:		
Frequency, volume, consistency	Hard and/or large caliber; soiling accidents (fecal incontinence)	Pencil thin stools
Passage problems	Pain/discomfort, withholding; blood on stool; peri-anal fissures	
Other symptoms	Appetite and abdominal pain wax and wane with stool passage; Urinary incontinence	Fatigue, fever, bilious vomiting, rash
Past / current treatment & response	Problems adhering to treatment	Poor response despite good adherence
Diet	Low fiber and fluid; high dairy	
Development	Delayed toilet training	Global developmental delay
Medication	(see <u>Table 3</u>)	
Psychosocial history	Family stressors	Suspicion for abuse
Family history	Other family members with constipation	

Physical Exam	Signs consistent with Functional Constipation	Red Flag Signs
General	Normal growth	Failure to thrive, Fever
Abdomen	Mild distention, palpable stool	Significant distention
Anus	Normal placement	Anteriorly displaced
	Fecal mass in rectum Stool around anus or on clothes	Empty rectum (and no history of recent stool passage) Tight sphincter Blood in stool
Back: skin / spine	Normal	Sacral agenesis, pilonidal dimple, hair tuft
Neurologic	Present anal wink / cremasteric reflex	Decreased lower extremity strength / tone / reflexes Absent anal wink / cremasteric reflex
Pulmonary	Normal	History of Pneumonias



TREATMENT

Medical-Behavioral approach:

- 1. Education about the condition
- 2. Disimpaction of constipation
- 3. Maintaining regular bowel movements
- 4. Behavior strategies to improve toileting habits and behaviors.

PSYCHOEDUCATION

- Demystify fecal incontinence and remove blame from the child
- Show empathy for the stress and frustration stemming from fecal incontinence. break the cycle
 of impatience that may have developed over time
- Discuss medical treatment plan explicitly for children and constipation
- Tailor the intervention program to the individual child to maximize the child's success.

DISIMPACTION

- MIRALAX
- MAYBEA STIMULANT LAXATIVE
- USUALLY FROM ABOVE. TRY TO AVOID FROM BELOW.



Intensity	Short course	Prolonged course
Low	Polyethylene glycol 2 capfuls (34 g) in 16 oz water/juice once daily, plus Senna 1 square (15 mg) once daily, for 2-3 days over the weekend (Fri Sun)	Polyethylene glycol 1 capful (17 g) in 8 oz water/juice twice daily, plus Senna 1 square (15 mg) once daily, for 7 14 days
Moderate	Magnesium citrate 10 oz bottle mixed in sprite or ginger ale for taste, given in divided doses over a day, for 1-2 days. <u>Or</u> Polyethylene glycol 5 capfuls (85 g) in 32 oz water/juice, given in divided doses over a day, for 1-2 days, plus senna (Ex-lax) 1 square (15 g) or bisacodyl 5 mg daily	Magnesium hydroxide 400 mg/5 mL: 5-30 mL/day once daily at bedtime or in divided doses, plus Polyethylene glycol 1 capful (17g) in 8 oz water/juice once daily, for 14 days
High	Polyethylene glycol electrolyte solution (GoLYTELY®) 25 mL/kg/hour for 4-10 hours until rectal effluent is clear (maximum total dose: 4 L). <u>Or</u> <u>Day 1</u> : Polyethylene glycol 257 gram bottle in 64 oz of electrolyte sports drink (Gatorade [™] , Powerade®), given in divided doses over a day. <u>Day 2</u> : Senna (Ex-lax) 2 squares (30 g) by mouth	 12 day course: <u>Day 1</u>: Enema (adult Fleet) <u>Day 2</u>: Bisacodyl (Dulcolax) suppository <u>Day 3</u>: Senna (Ex-lax) 2 squares (30 mg) or bisacodyl (Dulcolax) 1 tablet (5 mg) by mouth Repeat for 4 cycles

MAINTENANCE

- Optimize stool consistency
- Avoid re-accumulation or stool and re-occurrence of withholding
- Allow gut to recover normal sensation and motility
- Takes 6 to 24 months
- Medications
 - Usually low-dose miralax
 - "To achieve soft, semi-formed, easily-passed stools
 - Possibly a stimulant laxative
 - To promote motility



DIET

• Fiber

- Age (yr) + 5-10 g /day
- Men: 38 g max
- Women: 25 g max
- Fluids
 - Grams of fiber x 2 oz
 - Non-dairy, non-caffeinated clear fluid
- Fiber content search at USDA National Nutrient Database: <u>http://ndb.nal.usda.gov</u>

Quick method for estimating daily total dietary fiber intake

Total	g
	=
Additional foods ^b	=
Servings of whole grains x 2.5 g	=
Servings of refined grains x 1.0 g	_
Sometimes of motional empires of 1.0 m	_
Servings of vegetables x 1.5 g	=
Servings of fruit ^a x 1.5 g	=

Serving size determined from USDA data or food label. ^aJuice is not counted ^bCalculate contributions from concentrated fiber sources, legumes, and nuts and seeds using food-specific fiber values.

BEHAVIORAL THERAPY

- Goals:
 - Desensitize the child to the toilet-sitting process
 - Shaping procedure
- Graduated exposure to the bathroom / toilet
- Scheduled sit times
- Positive reinforcement of <u>any</u> successful toileting skills
- Building the behavioral chain of toileting
- Contingency reward program (e.g. sticker chart)



BOTTOM LINE

- Reduce / Eliminate the physical discomfort
- Make it non-threatening
- Reward success
- Be matter-of-fact about failures
- One step at a time
- Patience
- Find a friend and bring your parents along





Questions are guaranteed in life; Answers aren't.



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- Cocchiola, MA Jr, Martino, GM. Dwyer, LJ, Demezzo, K. Toilet training children with autism and developmental delays: an effective program for school settings. Behav Anal Pract. 2012, Winter; 5(2):60-4.
- Toilet Training Lecture given by Dr. Jeffrey Yang, MD 2017.

GROUP THERAPY

- Works in other pediatric chronic diseases
- Behavioral therapy group works better with <u>both</u> a parent and child component
- Improved mood, self-efficacy, and social support
- Decreased levels of distress, sense of isolation and incompetence
- Opportunity for emotional support, group problemsolving, modeling, and peer pressure on compliance



TOILET SCHOOL VS INDIVIDUAL TREATMENT

- Retrospective matched case-control study of 4 to 6 year olds
- More toileting benchmarks at the end of toilet school (p<0.001)
 - More likely to have bowel movements in the toilet (p=0.001)
- More toileting benchmarks at the 7th visit (p<0.001)
 - Still more likely to have bowel movements in the toilet (p=0.002)
- Fewer subsequent visits for completion of toilet training (p=0.013)
- Linear regression of number of toileting benchmarks met
 - 68% of variance between beginning and end of toilet school
 - 40% of variance between beginning of toilet school and 7th visit

CHILDREN'S MERCY HOSPITAL ALGORITHM



Wassom and Christophersen. Clin Pract Pediatr Psychol.

<u>Osmotics</u>			
Polyethylene glycol (PEG or MiraLAX®)	Powder for reconstitution: 17 g (1 cap, 4 tsp) should be mixed with 8 ounces of liquid	Start at 0.8 g/kg/day, or approximately 8.5-17 grams per day	No
Polyethylene glycol 3350 with electrolytes (GoLYTELY® or NuLYTELY®)	Powder for reconstitution: Available in pineapple flavor for GoLYTELY® and cherry, lemon-lime, pineapple, orange flavors for NuLYTELY®	25 mL/kg per hour	Yes
Magnesium Hydroxide (Milk of Magnesia)	Liquid: 400 mg/5 mL or 800 mg/5 mL Pedia-Lax® Chewable tablets: 400 mg	2-6 yrs: 400-1200 mg 6-12 yrs: 1200-2400 mg 12 yrs or above: 2400-4800 mg	No
Magnesium citrate (Citroma®)	Liquid: 290 mg/5 mL Available in grape, cherry, or lemon flavors.	<6 yrs: 2-4 mL/kg given once or in divided doses 6-12 yrs: 100-150 mL given once or in divided doses ≥12 yrs: 150-300 mL given once or in divided doses	No
Lactulose	Liquid: 10 mg/15 ml	5-10 mg per day	Yes
Sorbitol	70% oral solution or Sorbitol-based juices (e.g., prune, pear and apple)	2-11 yrs: 2 mL/kg ≥12 yrs: 30-150 mL Avoid juice intake volumes that are higher than AAP recommendations for children.	Yes No

<u>Stimulants</u>			
Senna	Senna tablet: 8.6 mg Senna liquid: 8.8 mg/5 mL Little Tummies® Laxative chocolate drops (infant/senna): 8.8 mg/1 ml Fletcher's® Root Beer Laxative Drops: 33.3 mg/5 mL Ex-Lax® chocolated squares: 15 mg Ex-Lax® tablet: 15 mg regular strength, 25 mg maximum strength	2-6 yrs: 8.6-8.8 mg 1-2 times a day 6 yrs or above: 15-17.6 mg per day 1-2 times a day	No
Bisacodyl	Liquid: 5 mg/5 mL Tablet: 5 mg Suppository: 10 mg	5-10 mg per day	No
Sodium phosphates (FLEET®) enema	Adult enema: 133 mL Pedia-Lax® enema: 66 mL	2-5 yr: 33 mL 5-12 yr: 66 mL 12 yr or above: 133 mL	No
	Emollients/Stool Sof	teners	
Docusate sodium (Colace®, Fleet® Pedia-Lax™ Liquid Stool Softener)	Capsule: 50 mg, 100 mg Liquid: 50mg/15 mL (Do not use with mineral oil)	<3 yr: 10-40 mg/day in 1-4 divided doses 3-6 yr: 20-60 mg/day in 1-4 divided doses 6-12 yr: 40-150 mg/day in 1-4 divided doses	No
Mineral oil	100% liquid (Do not use with docusate sodium)	Clean-out: 15-30 mL per year of age; maximum 240 mL per day Maintenance: 1-3 tbsp per day (1-3 mL/kg per day)	No

