

Self-injurious behavior in young children: Pearls, pitfalls, and room to grow

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1. I have no relevant financial relationships with the manufacturers(s) of any commercial products(s) and/or provider of commercial services discussed in this CME activity
2. I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.



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What's in a Name

1. "A disorder that involves repeated self-infliction of physical damage ..." – *Iwata et al (1982/1994)*
2. "A response that produces physical injury to the individual's own body." – *Tate & Baroff (1966)*
3. "A self-directed behavior that is socially unacceptable and places the individual or others in jeopardy ... affecting education, living placement, and community involvement" – *Emerson, 2001*
4. "Self-directed acts ... cause immediate tissue damage or have the potential to do so if left untreated" – *Rojahn, Schroeder, & Hoch (2007)*



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OK, so what qualifies??

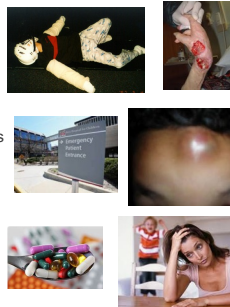
Most prevalent across all children under age 5 years old (MacLean et al., 2020)

- ✓ Headbanging
- ✓ Face/Body Slapping
- ✓ Hair Pulling
- ✓ Biting Self
- ✓ Eye poking/pressing
- ✓ Rectal Digging
- ✓ Scratching/skin picking
- ✓ Rumination
- ✓ Aerophagia
- ✓ Pica
- ✓ Hand mouthing
- ✓ Body hitting
- ✓ Polydipsia
- ✓ Body slamming

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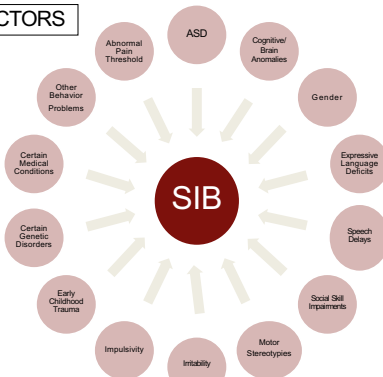
Clinical Significance of SIB

1. Host of negative outcomes
 - Significant health risks
 - Impact on QOL
 - Restrictive Treatment Practices
 - Residential placement
 - Increased caregiver/family stress
2. NIH (1991): Costs of care exceed \$3 billion
3. Subset with Chronic SIB
 - Highly treatment resistant



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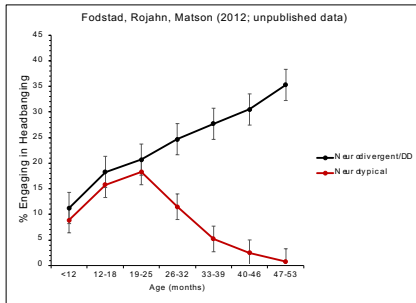
RISK FACTORS



Cunningham et al., 2008; Emerson et al., 2001; Fodstad et al., 2009; Fodstad et al., 2013; Fodstad et al., submitted; McClintock et al., 2003; Matson et al., 2009; Holden et al., 2006; McTiernan et al., 2011; Murphy et al., 2005; Hemmings et al., 2006; Sturme et al., 2010; Summers et al., 2017; Symons et al., 2009; Petty et al., 2014; Van Dyke et al., 1997; O'Reilly, 1997

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Trajectory of early SIB



Things to Note:

- 1 – SIB occurs early in across both groups
- 2 – No significant difference across groups until ~ turn 2 years old
- 3 – Neurotypical toddlers benefit from explosion in language (and other milestone progression) which may be related to mitigation of SIB around 2nd birthday
- 4 – Neurodivergent/DD toddlers SIB persists thru age 4 years old
- 5 – There are still some (albeit very few) neurotypical toddlers whose SIB persists thru age 4 years old

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AAP Guidelines for SIB in children

Health et al., 2016; Sarles & Edwards, 2016:

Step 1: Rule out acute or chronic medical conditions

Step 2: Referral to developmental pediatrician or subspecialty medical provider as needed

Step 3: Refer for a functional-behavior assessment (FBA) by a BCBA/behavioral psychologist and initiate behavior therapy

Step 4: If SIB causes tissue damage, interferes with social/emotional development, or persists beyond age 3 years old, refer to a child psychologist and/or child psychiatrist

Note: Even AAP says, SIB should be "checked out"/treated before/by age 3 years old!

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What is happening in primary care?

Were SIB-specific Recommendations Provided?

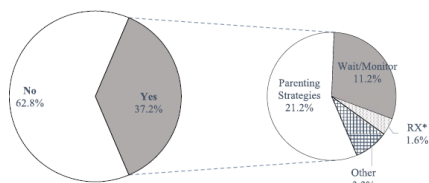


Fig. 1 Pediatrician response type to parent SIB concern * Note: RX=medicine was prescribed

Fodstad, Gonzalez, Barber, Curtin (2022)


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Early Intervention for SIB Exists (Regardless of Neurodevelopmental Status)

Antecedents

Behavior


Consequences


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Step 1: Assessment




Antecedents

Behavior

Consequences


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Define the “Behavior”


Antecedents


Behavior

Consequences

- What are we talking about here?

Could Also Mean ...	
Noncompliance	Self-injury
Physical or Verbal Aggression	Tantrums/Meltdowns
Property Destruction	Hyperactive Behavior
- Be as clear/specific as possible
E.g., Stephanie engages in physical aggression. When aggressive, she engages in hitting, kicking, scratching, pinching, biting others; throwing objects at others; and head-butting others.
E.g., David has major meltdowns. When he has a meltdown, he engages in screaming, cursing, crying, and/or self-injury (hitting himself on the face/head with open hand/closed fist, biting his hand), and either dropping or flopping to the floor OR running away from caregiver supervision


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Antecedents
Behavior
Consequences

Define the “Behavior”.

3. How frequent?
 - Daily, weekly, monthly
 - If daily, once?, less than 5?, between 5-10x?, greater than 10?
 - When was the last time the behavior occurred?
4. How severe?
 - Any redness, bruising swelling?
 - Anyone had to seek more than basic first aid? Concussions, loss of consciousness, broken bones?
 - Tell me the worst example? How long ago was that?
 - Do they tend to target a specific “vulnerable” person?
 - Ever had to go to ED, inpatient admissions, residential stays?
5. How long has the behavior been occurring?
 - Newly emerging behavior?

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Antecedents
Behavior
Consequences

Understand the “Before Behavior”

ANTECEDENTS

1. Could there be co-occurring medical conditions?
 - Seizures
 - How is their eating, sleeping, and pooping?
 - Pain
 - Hearing, vision?
 - Genetic or other contributing medical/developmental conditions?
2. Could there be co-occurring psychiatric conditions?
3. Any stressors or trauma, or recent changes?
4. What is their level of expressive language? (words, signs, pointing)
5. What may be contributing factors in the environment?
 - Where does it occur?
 - Home, school, community?
 - When/time of day does it occur?
 - Morning vs night? Bedtime? Bath time? School?
 - What are salient/clear triggers for behavior?

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Antecedents
Behavior
Consequences

Understand the “After Behavior”

CONSEQUENCES

1. Behavior is shaped/learned, and serves some sort of *purpose* – often a “communicative” purpose
2. How others respond when SIB occurs can make it more or less likely to occur in the future
 - **Questions to ask:**
 - What do they do in the moment when the behavior occurs?
 - How do they get the behavior to “stop”?
 - How well does it work at stopping in the short-term? And in long-term?
 - What do they do after the behavior is over?
 - Does it seem to become a game?
 - Alternatively, when child is “calm”, how does the parent respond?
 - What are things they like/are motivating?

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Summary: What's Your Function?

All behaviors serve a purpose.

Purpose	What it Means
Attention	"Come see Me!", "Look at Me!"
Tangible	"I want X!", "Don't take X away!"
Escape/Avoidance	"I don't want to do X!", "Oh no, X is about to happen!"
Automatic/Sensory	"This behavior feels good!"
Pain/Illness	"I don't feel so good!"

Note: This is a basic summary - and does not discount all the other known contributors or factors related to behavioral emergence, occurrence, and maintenance. All information gleaned from a complete biopsychosocial should be factored into treatment recommendations, next steps.

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Step 2:

Refer and Initial Recommendations



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You've Assessed ... Now What?

Follow AAP Guidelines.

Step 1: Rule out acute or chronic medical conditions

Step 2: Referral to developmental pediatrician or subspecialty medical provider as needed

Step 3: Refer for a functional-behavior assessment (FBA) by a BCBA/behavioral psychologist and initiate behavior therapy, including parent training

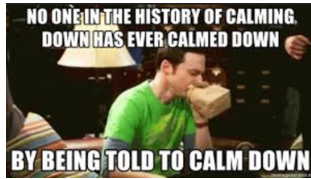
Step 4: If SIB causes tissue damage, interferes with social/emotional development, or persists beyond age 3 years old, refer to a child psychologist and/or child psychiatrist

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You've Assessed ... Now What?

Initial Recommendations YOU Can Start!!!

... But first thing first



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Initial Recommendations To Start

1. If behavior onsets suddenly or quickly escalates, can trial Tylenol to test out if "pain" is contributing and then work backwards.
2. If pooping, sleeping, and/or eating difficulties are thought to contribute, we want to reduce their impact through standard treatments for those issues.
3. Refer to other needed therapeutic services addressing areas of impairment that are factoring into early SIB.

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Initial Recommendations To Start

4. Headbanging: Be careful with recommending helmets.
 - a. If the behavior is sensory seeking, use of helmets may result in the emergence of other self-injurious behaviors
 - b. Can lead to other negative behaviors
 - c. If a helmet is necessary, a clear plan needs to be in place for when helmet is in use vs. not in use; a clear plan to fade the helmet out completely also needs to occur. Someone (not the parent) needs to oversee supervising the plan.
5. Headbanging on hard surfaces:
 - a. Move child to a softer surface (couch, bed) or slip a pillow underneath their head.
 - b. Remove or pad/modify specific item, thing, or area often targeted (e.g., their crib, the corner of the coffee table, etc).

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Initial Recommendations To Start

6. Redirect at FIRST SIGNS of irritability (and before SIB occurs)
 - a. First/then or if/then statements
 - b. Offer choices
 - c. Instead of "no" use "A is not available now ... but B or C is immediately available now." and say when A will be available.
Make sure to follow through
 - d. If able, prompt HELP or BREAK (or other relevant "mand")
7. Use the W.A.I.T. (Why Am I Talking/Etc.) skill like a champ!
 - a. Reduce excessive talking, giving the child "things" to calm them down, or allowing them out tasks or demands.
 - b. Note: It is hard to ignore until the behavior completely stops. Be mindful when recommending "ignoring" SIB to parents and be ready to modify this skill.



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Initial Recommendations To Start

8. If behavior is sensory seeking
 - a. Increase level of activity engagement.
 - a. Keeping the child more occupied can reduce boredom/sedentary time.
 - b. Find an item or activity that is associated with low levels of self-injury. It does NOT have to serve the same sensory input as the self-injury behavior.
 - a. Give continuous access to this item – especially during times of low-activity/boredom. If the child is not engaging in the item, represent it until they do. If they item does not lower the SIB or the child does not eventually "use the item," identify another item that competes with their desire to engage in self-injury.



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Case Examples

Assessment and Treatment



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Case Example #1

"Suzy"

- 19-months-old
- Began hair-pulling at age 15-months

At intake:

- 1.75 inches in diameter majorly thinned area on front of crown and minor thinning at bilateral temples
- Co-occurring hair "weaving" and thumb sucking
- Poor sleep
- Neurotypically developing
- Medical evaluation unremarkable
- No significant stressors/family history
- Patient did not seem distressed when pulling hair

"Natalie"

- 23-months-old
- Began hair-pulling at age 16-months
- At intake:

- 2 thinned-nearly bald spots: 1 inch and 1.5 inches in diameter on each side of head along midparietal ridge
- Poor sleep
- Neurotypically developing
- Medical evaluation unremarkable
- No significant stressors/family history

Fodstad, Greve, Curtin, & Laggos (2021)



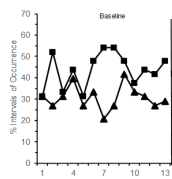
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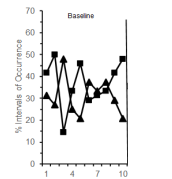
Fodstad, Greve, Curtin, & Laggos (2021)



Notable outcomes for Suzy:

- 1) Hairpulling most often occurred just before sleep onset and during sedentary activities
- 2) Took late afternoon naps (often going until 430/5pm)
- 3) Bedtime routine started at 730pm often asleep at 9pm

SUZY



Notable outcomes for Natalie:

- 1) Hairpulling most often occurred just before sleep onset and during sedentary activities
- 2) No clear naptime, often taking car naps in the afternoon lasting 30-45 minutes (nonconsecutively) or absent/excessive (up to 4 hour) naps at home
- 3) No clear bedtime routine, highly variable sleep onset time

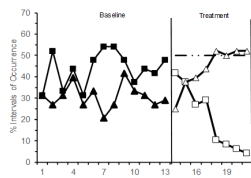
24 hour periods

NATALIE

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Fodstad, Greve, Curtin, & Laggos (2021)

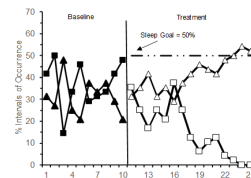
Return Health Wake Forest Baptist Pediatric Grand Rounds



Treatment for Both Suzy and Natalie:

1. Hairpulling: Training on Basic Behavioral Parenting Strategies + Competing Items + Differential Reinforcement of Alternative Behavior
2. Sleep Goals: Sleep Psychoeducation, Improving Sleep Hygiene, and Bedtime/Naptime Shaping

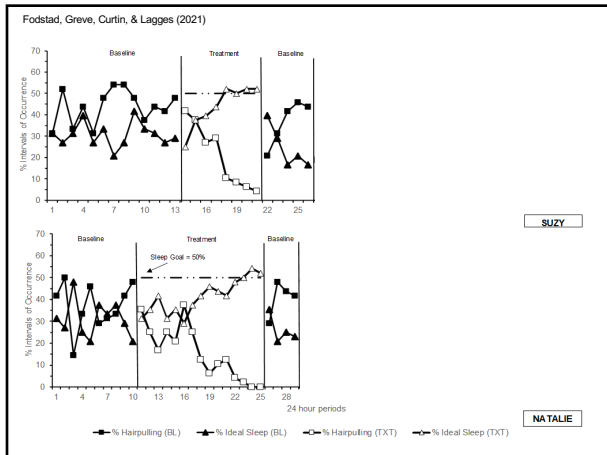
SUZY



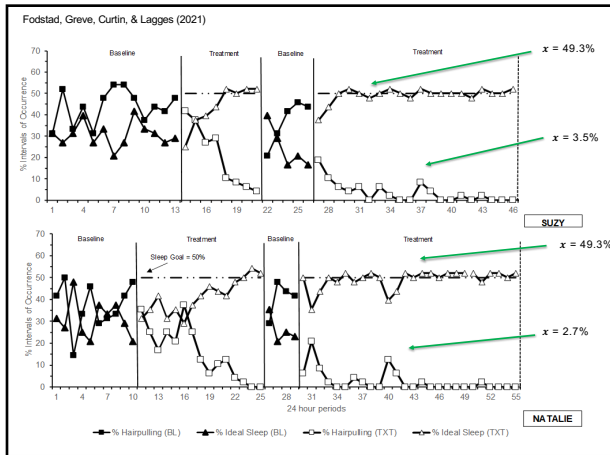
24 hour periods

NATALIE

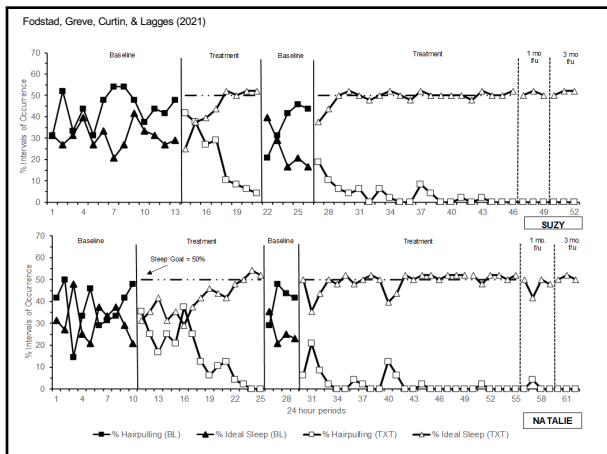
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Alum Health Wake Forest Baptist Pediatric Grand Rounds

Case Example #2

"Samuel"

- 3 years old, 0 months at intake
- Top Behaviors of Concern:
 - Headbanging; Puts hands on head and forward/backward hits head on objects
 - Other SIB: Face hitting, self pinching, hair-pulling
- DX: Autism Spectrum Disorder, epilepsy
- Daytime care provided at home; family lived in rural area with limited services; family had 1 car for transportation
- Language: No expressive speech; has 4 signs uses functionally (*eat, bye bye, more, all done*)
- Medication: ethosuximide (2.5 mL, 2x/day), iron, Tylenol/ibuprofen (as needed), melatonin (as needed)
- Poor sleep – night-wakings, sleep onset associated with SIB, limited daytime napping
- Triggers: Interrupting desired task, saying "no"/denied access, "bored", siblings not playing with him
- Parents manage behaviors by: Hugging, talking to him, rubbing back/head, playing with him, giving him something to eat/drink
- Other services/specialties involved: Neurology, Pediatrics/Developmental Pediatrics (referring provider), Speech, Occupational Therapy


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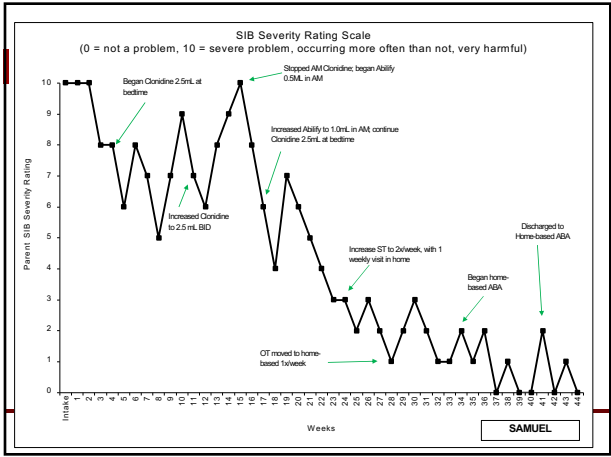
Case Example: Samuel

- Treatment Involved 3 Core Areas:
 - Care Coordination across providers
 - During course of treatment added Sleep Medicine and Psychiatry subspecialists to team
 - Increase Access to Home-based Services
 - SIB-specific individualized interventions implemented by caregivers through focused telehealth-based parent training and coaching
 - Picture- and sign-based Functional Communication Training
 - Minimizing Excessive Verbal + Physical Attention Contingent Upon SIB
 - Redirecting at Early Signs of Behavior
 - Increase visual-structure, and consistent routines in home
 - Environmental Engineering
 - Received Weekly Text-based Monitoring Tools to Rate Behavior, Reminders of Skills Working On/Troubleshooting Tips, Relevant Videos/Handouts, "Confidence Boosters"

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Questions?



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