CHILDREN'S MENTAL HEALTH RESOURCE CENTER

Hyperbolic Tapering

Safer Discontinuation for Children with Mood Disorders

Understanding why standard tapering schedules are often inadequate for children with bipolar disorder, major depression, and DMDD, and how hyperbolic tapering reduces the risk of serious mood destabilization when stopping psychiatric medications.

Stopping a psychiatric medication is not simply the reverse of starting one. For children with mood disorders, the way a medication is discontinued can be just as consequential as whether it was prescribed in the first place.

The brain does not experience equal milligram reductions as equal events. Hyperbolic tapering corrects this by calibrating dose reductions to receptor occupancy, not milligrams, protecting the child's mood system throughout the process.

> **Each step down in dose must be smaller than the last. The lower the dose, the more neurological impact each reduction carries.**

Well meaning providers may not give families sufficient information on how to wean off medications safely, to reduce withdrawal and side effects. Withdrawal effects can make it falsely appear as though the medication is still necessary, when it may not be.

It is important to acknowledge that there is a gap in the available literature on hyperbolic tapering in pediatric psychiatry. What exists is a combination of general pediatric taper guidance and adult psychiatry tapering. Clinicians are synthesizing the hyperbolic tapering framework across these two areas to meet the needs of pediatric psychiatry patients. Hyperbolic tapering still represents the most clinically sophisticated current approach to medication tapering. Hyperbolic tapering has been shown to achieve roughly 68–72% discontinuation success, even in populations that had already failed conventional approaches. Success with hyperbolic tapering demonstrated durability and was sustained over years.

FOR FAMILIES

A Guide for Parents & Caregivers

When a prescriber recommends stopping or reducing a psychiatric medication for your child, the method used matters enormously. For children with mood disorders, a poorly managed taper can trigger the very symptoms the medication was treating, and sometimes new ones.

This brochure explains what hyperbolic tapering is, why it is especially important for children with mood disorders, and what a careful taper looks like in practice.

> ↓ The dose reductions at the end of the tapering process have the greatest neurological impact. Starting slow, staying slow, and being patient, especially at the end of a taper, is not optional.

Patients and caregivers may sometimes be disappointed at how long it takes to wean off a psychiatric medication. But this slow and deliberate process is essential for reducing withdrawal and unintended side effects. Successful tapering is the goal, not doing it quickly.

Hyperbolic tapering is the most evidence-informed approach for minimizing withdrawal-emergent mood instability, rebound dysregulation, and the unmasking of underlying cycling in children with complex psychiatric histories. It uses a percentage reduction of the most recent dose to reduce medications safely and support a successful taper.

The goal is not just to get off the medication. The goal is to protect the child's mood stability throughout the entire process.

CHILDREN'S MENTAL HEALTH RESOURCE CENTER

— GUIDANCE. COMMUNITY. HOPE. —

COMMON QUESTIONS ANSWERED

Is stopping a medication quickly ever safe for a child with a mood disorder?

NO Abrupt or rapid discontinuation of SSRIs or antipsychotics in children with mood disorders such as bipolar disorder, major depression, or DMDD poses significant risk of rebound dysregulation and withdrawal-emergent mood instability. Careful, slow tapering is essential.

Does tapering by reducing the dose milligrams in equal amounts protect against withdrawal?

NO Equal milligram reductions are not equal neurologically. The lower the dose, the more impact each reduction has on receptor occupancy. A 5 mg reduction at the end of a taper affects the brain far more than 5 mg at the start. This does not eliminate the risk of withdrawal symptoms, but it reduces the risk.

Is there an established way to reduce medication doses with hyperbolic tapering? How is it calculated?

YES Hyperbolic tapering relies on proportional, percentage-based reductions rather than fixed milligram drops. It typically uses a reduction of 5% to 10% of the most recent dose. As the total dose shrinks, the absolute milligram amounts get progressively smaller to prevent nervous system shock.

Can stopping an antidepressant abruptly trigger a manic episode in a child with bipolar disorder?

YES Research documents mood destabilization events clustering not only around initiation but also around dose changes and discontinuation. Children with bipolar disorder are especially vulnerable to antidepressant-induced mania during both the start and the wean.

Should a mood stabilizer be in place before tapering an antidepressant or antipsychotic medication?

YES Research shows that the risk of triggering manic episodes in bipolar patients is increased when antidepressants and antipsychotic medications are discontinued. A therapeutic dose of a mood stabilizer during a taper appears to be protective.

Is hyperbolic tapering safer than traditional methods?

YES Traditional tapering usually involves cutting medications in half or quarters to reduce the total number of milligrams in the dose. But this can feel drastic to the nervous system. Hyperbolic tapering avoids this by slowing down reductions as the dose gets lower, making the process gentler and safer.

FOR CLINICIANS AND FAMILIES

Children with mood disorders such as bipolar disorder, major depression, and DMDD have neurobiologically dysregulated mood systems. Discontinuing medications that modulate those systems is a clinical intervention requiring the same care as initiating them.

THREE RISKS THAT DEMAND CAREFUL TAPERING

1. Rebound Dysregulation
2. Withdrawal-Emergent Mood Instability
3. Unmasking of Underlying Cycling

These are distinct but overlapping risks that arise when psychiatric medications are discontinued too quickly. This is of special concern in children with mood disorders, and they require close monitoring and a deliberately slow taper.

REBOUND DYSREGULATION

During a taper, the already-dysregulated mood system can swing significantly. This is not a relapse or the re-emergence of symptoms. It is a pharmacological rebound that requires dose adjustment. It is not a diagnosis of treatment failure, or the need to maintain the medication long term.

WITHDRAWAL-EMERGENT MOOD INSTABILITY

Even in patients who did not experience antidepressant-induced mania (AIM) while on the medication, the taper itself can destabilize mood regulation.

UNMASKING OF UNDERLYING CYCLING

The taper reveals a mood cycling pattern that was being suppressed by the medication. This is not a new problem. It is the child's underlying neurobiology becoming visible as the medication clears.

These concerns are not a reason to continue taking a medication that isn't working or is contraindicated for the disorder diagnosed. They remind us of the importance of going slowly to achieve a successful outcome.

UNDERSTANDING THE SCIENCE

What Hyperbolic Tapering *Really* Means

Hyperbolic tapering is an approach that calibrates dose reductions to **brain receptor occupancy rather than milligrams.** Because the relationship between dose and receptor occupancy follows a hyperbolic curve, reductions of equal milligrams (such as "reduce by 25mg every week") are not equal, nor do they have an equal effect neurologically.

THE CORE PRINCIPLE

A 10 mg reduction from 40 mg affects receptor occupancy far less than a 10 mg reduction from 20 mg. As the dose decreases, each further reduction carries proportionally greater neurological impact. The taper must slow as it approaches zero.

The landmark framework for hyperbolic tapering was established by Horowitz and Taylor in *The Lancet Psychiatry* (2019), which argued that SSRIs should be tapered hyperbolically and slowly, to doses much lower than the recognized therapeutic minimum, in order to minimize discontinuation effects.

Applying hyperbolic tapering in children with mood disorders

1. At each step, reductions are approximately 10% of the current dose (not the original dose).
2. Allow 2 to 4 weeks between each reduction to observe for any mood change before proceeding.
3. Slow or pause at any sign of mood instability, sleep disruption, or emerging symptoms.
4. Complete the final reductions at the slowest rate. These carry the highest proportional receptor impact.
5. Continue close monitoring for 4 to 6 weeks after the last dose, as delayed effects are well documented.

During the tapering process, it is helpful to know that medications can be compounded into non-standard doses in both pill or liquid form by a compounding pharmacy. Compounded medications eliminate dosing inaccuracies, prevent the loss of active ingredients, and remove the risk of ruining time-release mechanisms.

THE PATH FORWARD

Recognizing *Warning Signs* During a Taper

Well meaning providers may not give families sufficient information on how to wean off medications safely, to reduce withdrawal and side effects. Withdrawal effects can make it falsely appear as though the medication is still necessary, when it may not be.

Parents and caregivers play a critical role during a medication taper. Knowing what to watch for and when to call the prescriber can prevent a manageable withdrawal response from becoming a full mood episode.

Contact the prescriber promptly if you observe:

- → Decreased need for sleep without corresponding fatigue
- → Pressured speech, rapid talking, or inability to slow down
- → Increased goal-directed activity beyond the child's baseline
- → Irritability escalating significantly beyond the child's stable baseline
- → Elation, or unrestrained giddy or elevated mood beyond the child's baseline
- → Returning depressive symptoms, tearfulness, or withdrawal
- → New anxiety, sensory hypersensitivity, or physical complaints
- → Mood fluctuations more rapid or intense than before the taper began
- → Headache, muscle aches, dizziness, vertigo, or light-headedness
- → Fatigue, trouble sleeping, nightmares
- → Loss of appetite, nausea, vomiting, diarrhea
- → Tremors, restlessness, shakiness, agitation
- → Feeling too hot or too cold, excess sweating
- → Tingling, burning, or "electric shock" sensations
- → Psychosis, or detached from reality

A taper that is paused, slowed, or temporarily reversed is not a failure. It is precision medicine. The goal is mood stability, not speed.

ON THE PROCESS OF DISCONTINUATION