



# Variable Patterns of Remission From ADHD in the Multimodal Treatment Study of ADHD

Research Corner

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Sibley, M. H., Arnold, L. E., Swanson, J. M., Hechtman, L. T., Kennedy, T. M., Owens, E., Molina, B. S. G., Jensen, P. S., Hinshaw, S. P., Roy, A., Chronis-Tuscano, A., Newcorn, J. H., Rohde, L. A., & MTA Cooperative Group (2022). Variable Patterns of Remission From ADHD in the Multimodal Treatment Study of ADHD. *The American Journal of Psychiatry*, 179(2), 142–151.  
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## Objective:

- It is estimated that childhood ADHD remits by adulthood in approximately 50% of cases
  - However, most research only reports on a single-time snapshot of functioning, failing to consider longitudinal patterns of ADHD expression
- This study investigated the extent to which children with ADHD experience recovery and variable patterns of remission by adulthood

## Method:

- 558 children with ADHD from the Multimodal Treatment Study of ADHD (MTA)
- Used follow-up multi-informant assessment (parent, teacher, self-report) data to measure ADHD symptoms, impairments, treatment utilization, and comorbidities across 16 years, spanning childhood through young adulthood:
  - Eight follow-up assessments ranging from 2 years (mean age, 10.44 years) to 16 years (mean age, 25.12 years)
  - At each time point, authors identified participants with full remission, partial remission, or persistent ADHD

## Method:

- Measures:
  - ADHD symptoms:
    - Child - Swanson, Nolan and Pelham Rating Scale
    - Adult - Conners' Adult ADHD Rating Scale
  - Impairment:
    - Child - Columbia Impairment Scale
    - Adult - Impairment Rating Scale
  - Psychiatric Diagnoses:
    - Diagnostic Interview Schedule for Children
  - Service Utilization:
    - Services for Children and Adolescents–Parent Interview

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# Case classification at each assessment point

**TABLE 2. Case classification at each assessment point in the Multimodal Treatment Study of ADHD<sup>a</sup>**

Years After Baseline	N	Age (years)		Step 1: Below Symptom Threshold		Step 2: Below Symptom Threshold + Absence of Impairment <sup>b</sup>		Step 3 (Full Remission): Below Symptom Threshold + Absence of Impairment + Absence of Treatment <sup>c</sup>		Partial Remission		Persistent ADHD	
		Mean	SD	N	%	N	%	N	%	N	%	N	%
2	531	10.43	0.86	85	16.0	29	5.5	8	1.4	273	51.4	250	47.1
3	485	11.73	0.92	95	19.6	27	5.6	10	2.1	229	47.2	246	50.7
6	449	14.94	0.96	65	14.5	20	4.5	15	3.3	183	40.8	251	55.9
8	429	16.79	0.96	93	21.7	36	8.4	26	6.1	202	47.1	201	46.9
10	422	18.69	0.93	157	37.2	82	20.1	78	18.5	157	37.2	187	44.3
12	420	21.05	1.09	193	46.0	80	19.0	77	18.3	159	37.9	184	43.8
14	438	23.17	1.09	208	47.5	86	19.6	80	18.3	184	42.0	174	39.7
16	418	25.12	1.07	196	46.9	64	15.3	61	14.6	191	45.7	166	39.7

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# Patterns of full remission, recurrence, and recovery from ADHD

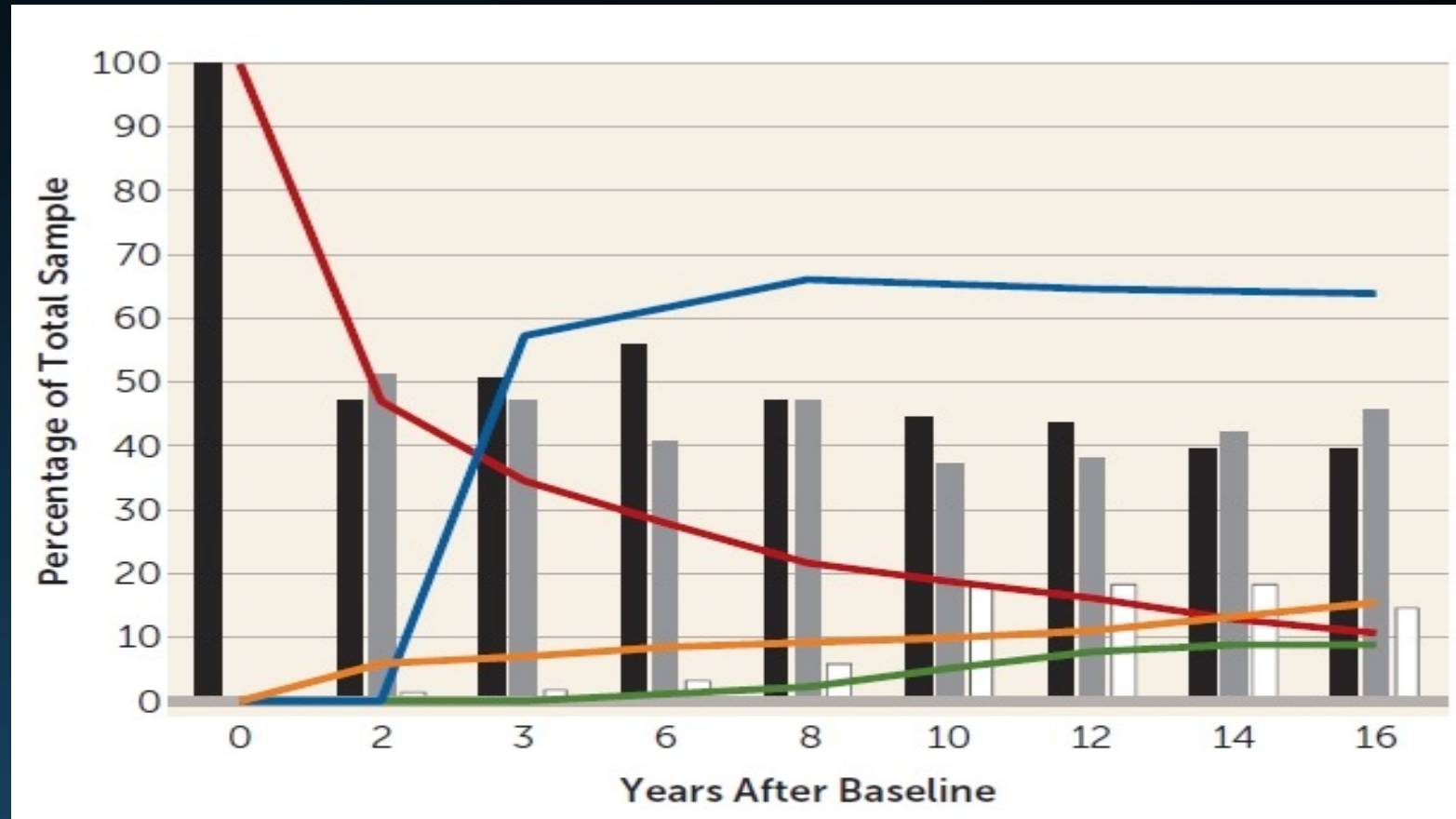
- 31.4% met criteria for full remission for at least one time point
- Among the 175 fully remitting cases, 59.4% demonstrated full (29.1%) or partial (30.3%) recurrence of ADHD after the initial episode of full remission
- Recovery from ADHD was detected for 9.1% (mean age, 25.12 years)
  - Adulthood = 76.5%
  - Adolescence = 21.5%
  - Childhood = 2%
- 10.8% demonstrated stable ADHD persistence across study time points
- Most participants with ADHD (63.8%) had fluctuating periods of remission and recurrence over time

**TABLE 3. Patterns of full remission, recurrence, and recovery from ADHD in the Multimodal Treatment Study of ADHD (N=558)**

Subsample and Measure	N	%	Percent of Total sample
Full remission subsample	175		31.4
Remission at one assessment	85	48.6	15.2
Remission at multiple assessments	90	51.4	16.1
No recurrence	42	24.0	7.5
Partial recurrence <sup>a,b</sup>	53	30.3	9.5
Full recurrence <sup>a,c</sup>	51	29.1	9.1
Unable to judge recurrence <sup>d</sup>	29	16.6	5.2
Recovery subsample <sup>e</sup>	51		9.1
Duration of recovery period (N=51)			
2 years	18	35.3	3.2
4 years	17	33.3	3.0
6 years	7	13.7	1.3
8 years	6	11.8	1.1
≥10 years	3	5.9	0.5
Onset of recovery (N=51)			
Childhood (under age 12)	1	2.0	0.2
Adolescence (ages 12 to 17.99)	11	21.5	2.0
Adulthood (age 18 or over)	39	76.5	7.0

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# Longitudinal and cross-sectional patterns of remission, recovery, and persistence



- DSM ADHD (persistent)
- Partially remitted
- Fully remitted
- Recovered
- Stable partial remission
- Stable persistence
- Fluctuating status

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## Conclusions:

- Most cases demonstrated fluctuating symptoms between childhood and young adulthood
  - Although intermittent periods of remission can be expected in most cases, 90% of children with ADHD from the MTA study continued to experience residual symptoms into young adulthood
- Providers should expect recurrence of clinically elevated ADHD symptoms and impairments in most patients who experience remission
  - Continued periodic screening for recurrent symptoms and impairments should therefore be standard practice after successful treatment