

**THE CASE OF THE CRANKY KID:**  
**DIFFERENTIATING DIAGNOSES IN THE IRRITABLE CHILD**

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## DISCLOSURES

Other than being an irritable child, I have no relevant disclosures

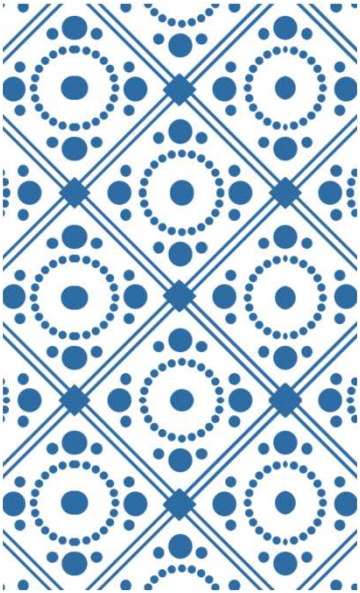


## OBJECTIVES




- ✓ Review **differential diagnoses** for pediatric irritability
- ✓ Understand **DSM-5 diagnostic criteria** for diagnoses presenting with pediatric irritability
- ✓ Explain the role of **screening tools** when evaluating pediatric patients with irritability
- ✓ Discuss **treatment options** for pediatric patients with irritability



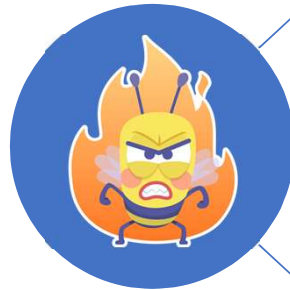


# THE CASE OF THE CRANKY KID

An Introduction to Pediatric Irritability



# DEFINING PEDIATRIC IRRITABILITY



Merriam  
Webster

- Quick excitability to annoyance, impatience, or anger

Conceptual

- Proneness to anger relative to peers

Operational

- Combination of temper outbursts & easy to anger or annoy



WHAT DOES IRRITABILITY LOOK LIKE?

Hello  
my name is

Irritability

# THAT CHILD IS SO...

Willful

Temperamental

Resentful

Easily Annoyed

Headstrong

Cranky

Argumentative

Touchy

Mad

Grouchy

Spiteful



# IS PEDIATRIC IRRITABILITY...

Affective or Behavioral ?

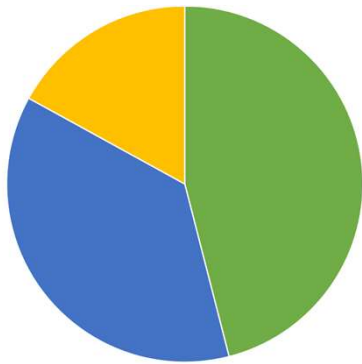
Developmental or Pathological ?

Episodic or Chronic ?





... IT IS ALSO COMMON!



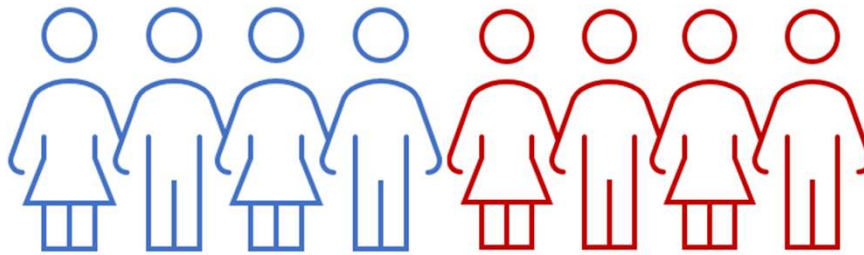
**46%** of 3-15 year-olds displayed irritability in the form of **tantrums**.

Another **17%** displayed **angry mood**.



Roy, Braiman, & Leibenluft, 2019

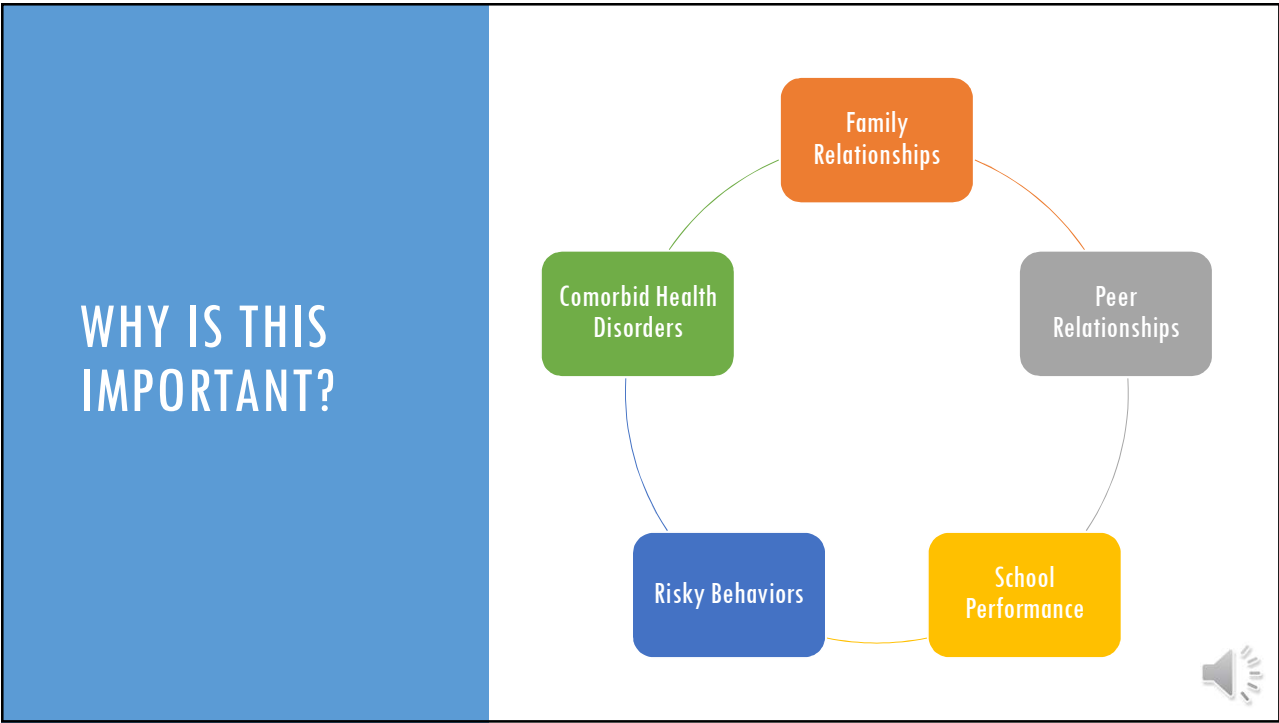




In a 2001 study by Achenbach & Rescorla, **Half** of participants had a Child Behavior Checklist **score of  $\geq 3$**

Roy, Brotman, & Leibenluft, 2019





# NEGATIVE OUTCOMES OF PEDIATRIC IRRITABILITY

## Relationships

- Familial Stress
- Peer Conflict
- Intentional Harm to Self or Others
- Suicidality

## Scholastic & Occupational Functioning

- Decreased Education Level
- Lower Income Level

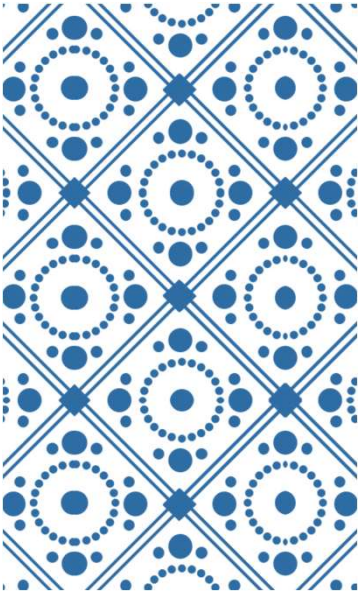
## Consequences of Risky Behavior

- Substance Use Disorders
- Sexually Transmitted Infection
- Unintentional Pregnancy
- Accidental Injury

## Comorbid Disorders

- Internalizing Disorders
- Externalizing Disorders






# THE CASE OF THE CRANKY KID

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Case Scenario Introduction



## CASE SCENARIO

"Jay" is an 8-year-old Caucasian male who presents to your outpatient clinic with chief complaint of irritability.

He is accompanied to the appointment by his mother.



# Case Scenario

What additional information do we need about Jay's irritability?

Onset

Location

Duration

Character

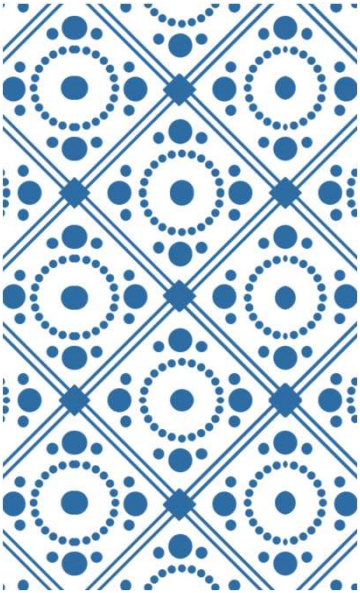
Alleviating & Aggravating Factors

Radiation

Treatments Tried


Symptoms Associated





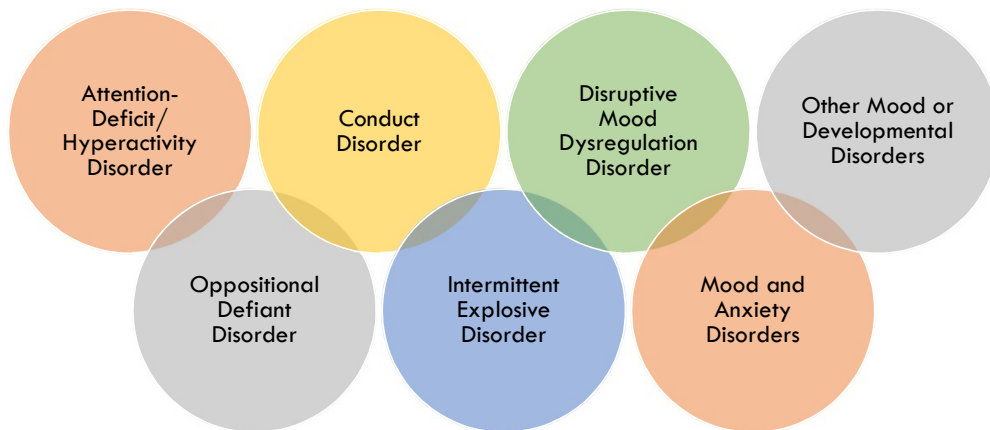
# THE CASE OF THE CRANKY KID

Review of Differential Diagnoses of Pediatric Irritability





## DIFFERENTIAL DIAGNOSES FOR PEDIATRIC IRRITABILITY



## ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

### Persistent Pattern of Inattention and/or Hyperactivity-Impulsivity

- 6 or more inattentive or hyperactive-impulsive symptoms

### Symptoms Do

- Present before age 12
- Occur in more than 1 setting
- Interfere with daily life

### Symptoms Do Not

- Occur exclusively during course of Schizophrenia or Other Psychotic Disorder
- Have alternative mental health or substance use explanation



# ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

## Inattention

- Lacks attention to details, makes **careless mistakes**
- Difficulty sustaining attention**
- Does not seem to listen** when spoken to directly
- Does not follow through** on instructions, homework, chores
- Difficulty organizing** tasks
- Reluctant to engage** in tasks that require sustained attention
- Often **loses things** necessary for tasks
- Easily distracted** by extraneous stimuli
- Often **forgetful** in daily activities

## Hyperactivity-Impulsivity

- Fidgets** or squirms in seat
- Often **leaves seat** when expected to remain seated
- Often **runs or climbs** in inappropriate situations
- Unable to play quietly**
- "On the go" or "**Driven by a motor**"
- Talks excessively**
- Blurts out** answers
- Difficulty waiting for their turn**
- Interrupts** or intrudes on others



## OPPOSITIONAL DEFIANT DISORDER



Pattern of angry/irritable mood, argumentative/defiant behavior, or vindictiveness

At least 6 months in duration

Exhibited to at least 1 individual other than sibling



# OPPOSITIONAL DEFIANT DISORDER

AT LEAST 4 OF THE FOLLOWING IN THE  
LAST 6 MONTHS

## Angry or Irritable Mood

- Often loses temper
- Often touchy or easily annoyed
- Often angry and resentful

## Argumentative or Defiant Behavior

- Argues with authority figures
- Actively defies or doesn't comply with requests
- Deliberately annoys others
- Blames others for mistakes or misbehavior

## Vindictiveness

- Has been spiteful or vindictive at least 2x in the past 6 months





REPETITIVE AND PERSISTENT PATTERN OF BEHAVIOR IN WHICH  
THE BASIC RIGHTS OF OTHERS OR RULES ARE VIOLATED

- Aggression to people and animals
- Destruction of property
- Deceitfulness or theft
- Serious violations of rules

**CONDUCT DISORDER**



## CONDUCT DISORDER

3+ SYMPTOMS IN THE PAST 12  
MONTHS, WITH AT LEAST 1 PRESENT  
IN THE PAST 6 MONTHS

INDIVIDUAL IS LESS THAN 18 YEARS  
OF AGE

**Bullies, threatens, or intimidates** others

Initiates physical **fight**s

Used a **weapon** that can cause serious physical harm

**Physically cruel** to people or animals

Stolen while **confronting a victim**

**Forced** someone into **sexual activity**

Deliberate **fire setting** with intent to cause damage

Deliberate **destruction of another's property**

**Broken in** to someone else's home, building, or care

**Lies** to obtain favors or goods

**Stolen** items of nontrivial value

Prior to age 13, **stays out at night** despite parental rules

**Run away** from home overnight at least twice (or once for a lengthy period of time)

Prior to age 13, is often **truant from school**



## INTERMITTENT EXPLOSIVE DISORDER

Recurrent **behavioral outbursts** & failure to control aggressive impulses

At least **6 years** of age

Outbursts are **grossly out of proportion** to precipitating event

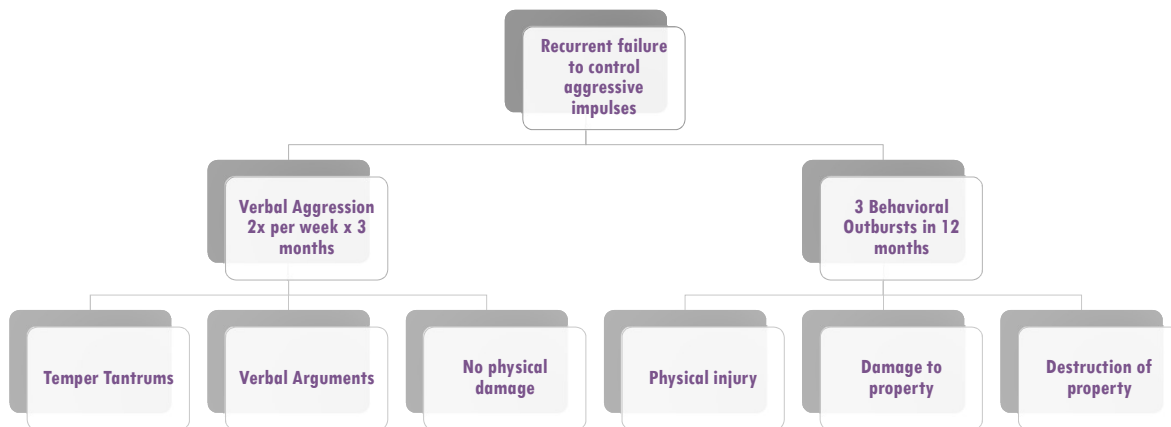
**Not premeditated**

**Cause marked distress**





# INTERMITTENT EXPLOSIVE DISORDER



# DISRUPTIVE MOOD DYSREGULATION DISORDER

Severe, recurrent verbal or physical temper outbursts

- Intensity out of proportion to situation

Temper outbursts are inconsistent with developmental level

Outbursts occur 3+ times per week, on average

Between outbursts, mood is persistently irritable or angry

- Most of the day
- Nearly every day
- Observed by others

Present for 12+ months

- No more than 3 consecutive months without symptoms
- In at least 2 of 3 settings

Age at diagnosis

- Symptoms present before age 10
- Diagnosis should NOT be made before 6 or after 18 years of age

No mania or hypomania



# MAJOR DEPRESSIVE DISORDER



Five or more symptoms present in same 2-week period



Change from previous functioning



Cause clinically significant distress



Not due to other condition or substance



No mania or hypomania



# MAJOR DEPRESSIVE DISORDER

Five or more symptoms nearly  
every day:  
MSIGECAPS

Depressed or irritable **mood** most of the day

**Sleep** Changes, such as insomnia or hypersomnia

Markedly diminished **interest** or pleasure in all (or almost all) activities most of the day

Feelings of worthlessness or inappropriate **guilt**

Fatigue or loss of **energy** nearly every day

Diminished ability to think, decreased **concentration**, or indecisiveness

Significant weight or **appetite** changes, or failure to make weight gain

**Psychomotor** retardation or agitation

Recurrent thoughts of death or **suicidal ideation**





## GENERALIZED ANXIETY DISORDER

**Excessive worry** about a number of activities

Occurs **more days than not** x 6 months

**Difficult to control** worry

Worry **causes impairment** in functioning

Not related to other disorder or substance

**AND...**



# GENERALIZED ANXIETY DISORDER

... IN CHILDREN, ANXIETY IS ASSOCIATED WITH AT LEAST 1 OF THE FOLLOWING:



Restlessness, feeling "keyed up" or "on edge"



Being easily fatigued



Difficulty concentrating or mind going blank



Irritability

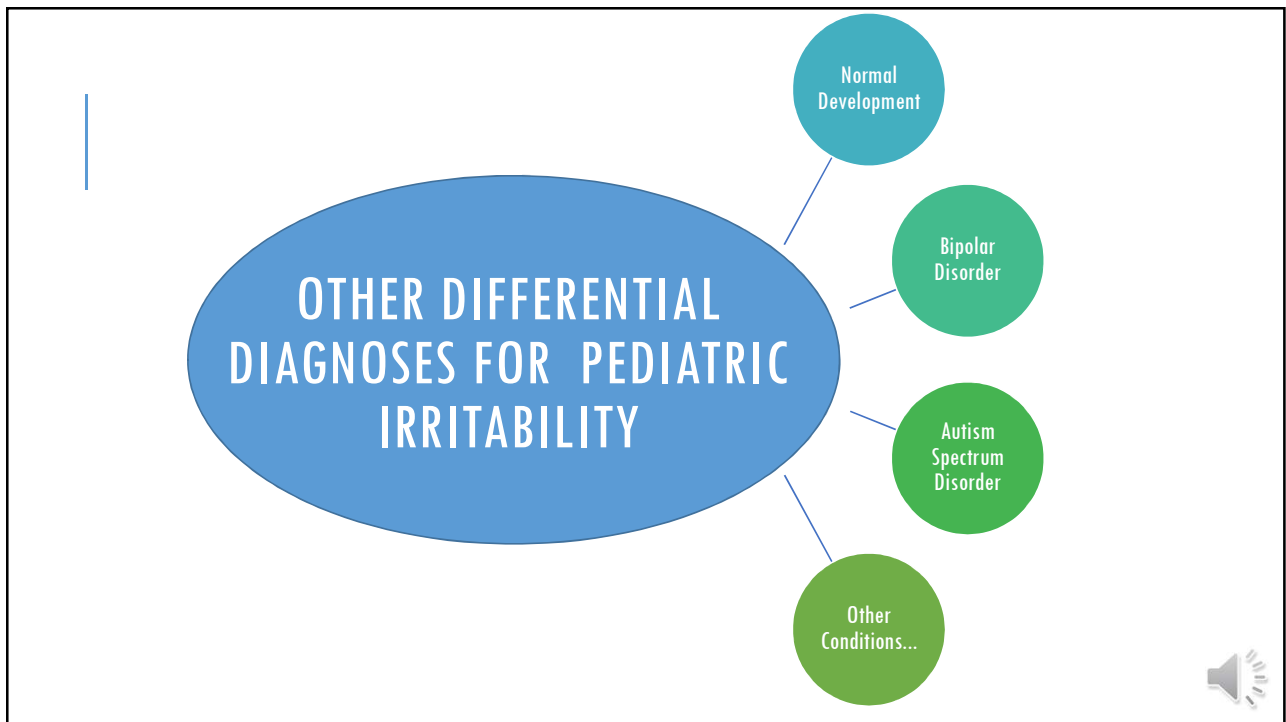


Muscle tension



Sleep disturbances







Internalizing or Externalizing



Presence of Absence of Remorse



Years of Age



Type of Irritability



Timing and Duration



Measurement Tool

## DIFFERENTIATING DIAGNOSES OF IRRITABILITY

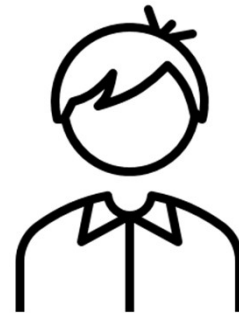




## CASE SCENARIO

**Patient Information:** "Jay" is an 8-year-old Caucasian male who presents with chief complaint of irritability. He is currently in 2nd grade. He is accompanied by his mother.

**History of Present Illness:** Jay has had difficulty regulating his emotions since preschool. He is easily frustrated, particularly when he is required to do a non-preferred activity or is not winning. In the last year, his irritability has increased, with Jay having 3 episodes of physical aggression at school, with all occurring in unstructured recess time. At home, Jay's irritability is noticed in the form of yelling at his parents when frustrated, refusal to do chores, and pushing his younger brother. When frustrated, it takes Jay about 45 minutes to calm down. His symptoms are creating daily stress at home and causing tension among the family. His teacher reports that Jay has above average academic performance. However, Jay is often disruptive in class, as he struggles to stay seated, has difficulty waiting his turn, interrupts others, and often does not think through the consequences of his actions. Jay reports feeling remorseful when his actions harm others.

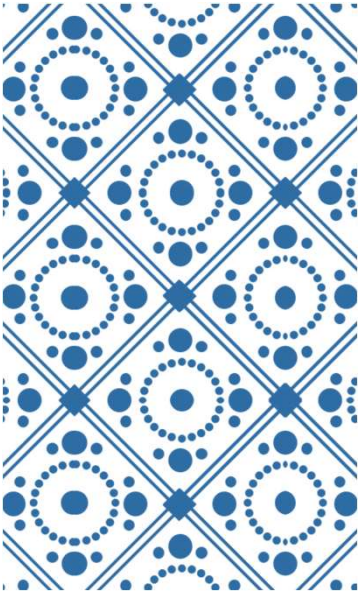


## CASE SCENARIO

**Past Medical History:** Jay was born at 40<sup>1/7</sup> weeks of gestation via vaginal delivery without complications. No in utero exposures to alcohol, nicotine, or illicit substances. No maternal health concerns during pregnancy. Jay has met all developmental milestones appropriately and maintains growth at the 75 percentiles for height and weight. He had Eustachian Tubes placed at 10 months of age. No other chronic conditions, surgeries, or hospitalizations. He does not use assistive devices for seeing or hearing. He is up to date on well child examinations, dental care, and immunizations. He takes a daily multivitamin and has no reported medication allergies.


**Family History:** Positive for Bipolar Disorder, Substance Use Disorder, and Hypertension, and Migraine Headaches. No history of death by suicide.

**Social History:** Jay lives at home with his biological mother, father, and brother. He is reported to have a generally good relationship with his mother, and a generally fair relationship with his father and brother. He is in 2nd grade, and reportedly scores in the 90th percentile or higher on standardized assessments. He enjoys school, and reports having 5+ good friends. He attends extended care after school and participates in soccer. There is no exposure to smoke in the home.



# THE CASE OF THE CRANKY KID

Surveilling, Screening, and Assessing Irritability



## MULTIPLE CHOICE QUESTION

**Universal screening recommendations for pediatric care include performing a developmental screen with a validated questionnaire at which of the following?**

- a) Every well-child check
- b) Every 6 months until 5 years of age
- c) Annually from ages 1 to 6
- d) At the 9, 18, and 30 month well-child checks
- e) At the 12, 18, and 24 month well-child checks

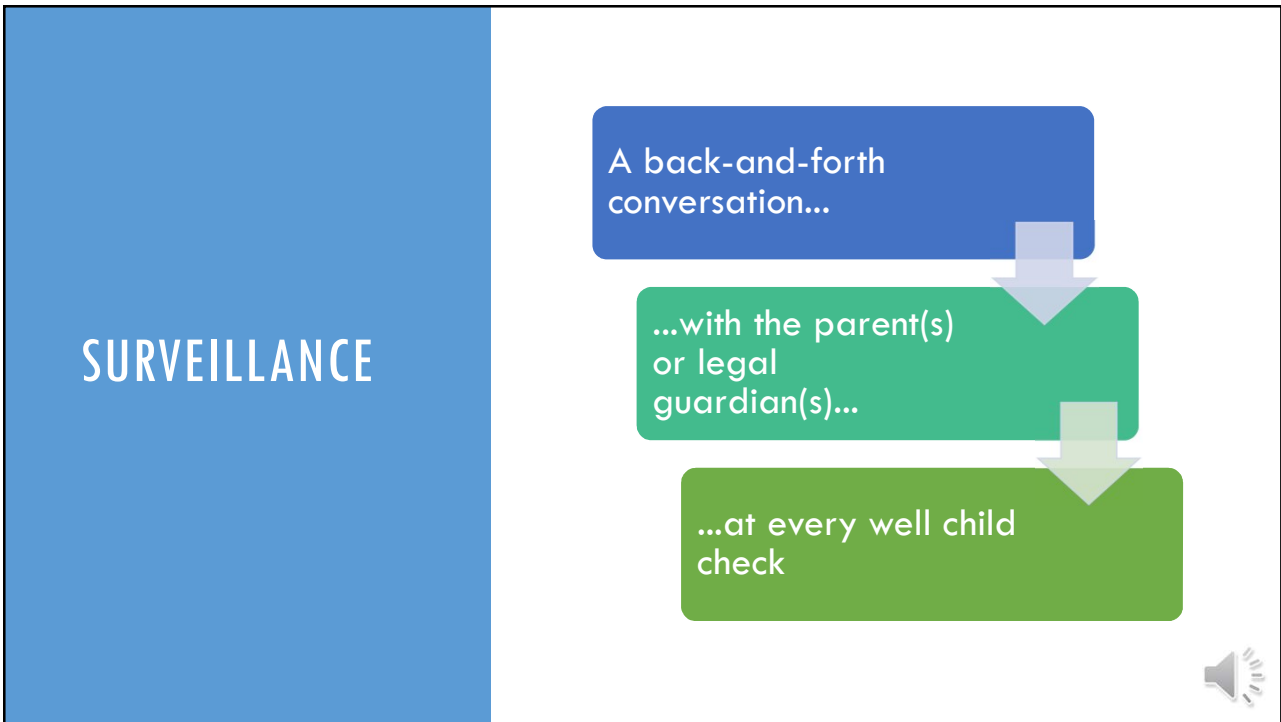


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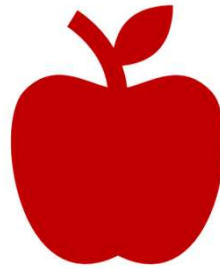
## SURVEILLANCE

### Bright Futures Previsit & Supplemental Questionnaires

▪ <https://www.elpasoped.com/files/html/Forms/English/CoreTools11-14YearEAVisit.pdf>

### HEADSSS Adolescent Interview

- Home
- Education/Employment
- Activities
- Drugs
- Sexuality
- Suicide or Depression
- Safety





UNIVERSALLY DONE AT 9,  
18, AND 30 MONTHS



ALSO DONE WHEN  
HISTORY & EXAM  
INDICATE NEED



USING A VALIDATED,  
PUBLISHED SCREENING  
TOOL



CONSIDER PURPOSE,  
POPULATION, &  
RESOURCES


# SCREENING





The diagram features a central cluster of six hexagons. The top-right hexagon is dark blue and contains the text 'ASQ-3'. To its right is the text 'Ages & Stages Questionnaires – 3rd Edition'. The middle-left hexagon is teal and contains the text 'PEDS'. To its left is the text 'Parents' Evaluation of Developmental Status'. The bottom-right hexagon is green and contains the text 'SWYC'. To its right is the text 'Survey of Wellness in Young Children'. There are also two empty hexagons: one teal at the top-left and one green at the bottom-left.

**GLOBAL SCREENING TESTS**



# GLOBAL SCREENING TOOLS

## ASQ-3

- Parent-completed questionnaire
- 21 questions
- 2 months – 5 years
- Also have ASQ-SE-2

## PEDS

- Parent interview
- 10 items
- 0-8 years
- Also version for SE problems

## SWYC: Milestones

- 12 age-specific forms keyed to pediatric periodicity table
- 1-65 months (5 years, 5 months)



## PSYCHOSOCIAL & BEHAVIOR SCREENING TOOLS

### Pediatric Symptom Checklist (PSC)

- Psychosocial Screening Tool
  - Parent-Completed or Youth Self-Report
- 17 or 35 items
  - Attention, Anxiety/Depression, Conduct Subscales
  - Never = 0; Sometimes = 1; Often = 2
- Scoring Indicative of Further Evaluation
  - Ages 3-5: Score of 24+ is at risk
  - Ages 6-16: Score 28+ is impaired
  - Y-PSC: Score of 30+ is impaired

### Strength & Difficulties Questionnaire (SDQ)

- Behavioral Screening Questionnaire for 3-16 year-olds
  - Parent & Teacher Reports or Youth Self-Report
- 25 items + Impact
  - Emotional Symptoms
  - Conduct Problems
  - Hyperactivity/Inattention
  - Peer Relationship Problems
  - Prosocial Behavior

### Behavior Assessment System for Children (BASC –3)

- Screens for Adaptive & Behavioral Problems
- Multiple Forms
  - Preschool (2-5)
  - Child (6-11)
  - Adolescent (12-21)
- Parent & Teacher Reports
- 105-165 items
  - 4 point scale of "Never" to "Almost Always"



## TOOLS FOR ADHD & COMORBIDITIES



### NICHQ Vanderbilt Assessment Scale

- Aids in ADHD Diagnosis for 6-12 year-olds
- Parent & Teacher Reports
- Considers Comorbidities

### ADHD Rating Scale – 5

- Based on DSM-5 Criteria
- 9 Hyperactive Items & 9 Inattentive Items
- Percentile Scoring based on Symptom Frequency

### Conners 3rd Edition

- Aids in Diagnosis of ADHD for 6-18 year-olds
- Parent & Teacher Reports or Self-Report (8+)
- Consider Comorbid ODD & CD
- Screens for Anxiety & Depression



## TOOLS FOR ANXIETY, DEPRESSION, & DMDD

### SCARED

- 41 item screen for anxiety
- Parent & Child Report
- Specificity > Sensitivity

### CES-DC

- 20 item screen for depression
- Self-report by child
- Symptoms within last week

### DMDD

- DSM-5 Diagnostic Criteria
- Research Ongoing to Assess Diagnostic Validity



REMEMBER...

There are many other screening tools

Screening does not replace a thorough history and physical exam

It is best to use multiple screening tools

A positive screen isn't necessarily a diagnosis



## CASE SCENARIO

- **Vanderbilt**

- Maternal, Paternal, and Teacher scores high in ADHD, predominantly hyperactive-impulsive subtype and ODD criteria

- **BASC-3**

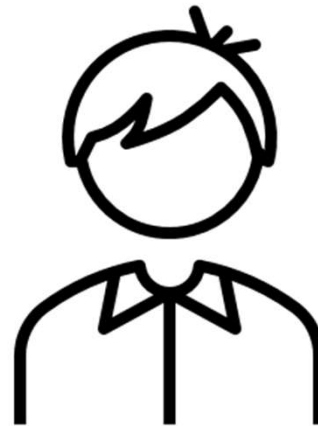
- Maternal, Paternal, and Teacher scores at or above 90th percentile for externalizing problems, hyperactivity, and aggression.
- Maternal, Paternal, and Teacher scores at or below 50th percentile for adaptability

- **ADHD Rating Scale-5**

- Maternal and Paternal scores show clinically significant hyperactivity-impulsive symptoms in 95th percentile or above
- Teacher score shows clinically significant impairment in behavior and relationships

- **DSM-V Disruptive Behavior Rating Scale**

- Paternal score clinically significant oppositional behavior
- Conduct Disorder not clinically significant on maternal, paternal, or teacher score



**CASE SCENARIO**

ASSESSMENT

**Assessment #1** Attention-Deficit/Hyperactivity Disorder

**Assessment #2** Oppositional Defiant Disorder





## MULTIPLE CHOICE QUESTION

**Which of the following is a part of the DSM-5 diagnostic criteria for Attention-Deficit/Hyperactivity Disorder – Hyperactive Subtype?**

- a) Often has difficulty sustaining attention in tasks or play activities
- b) Often loses things necessary for tasks and activities
- c) Often has difficulty waiting his or her turn
- d) Often has difficulty organizing tasks and activities
- e) Is often forgetful in daily activities

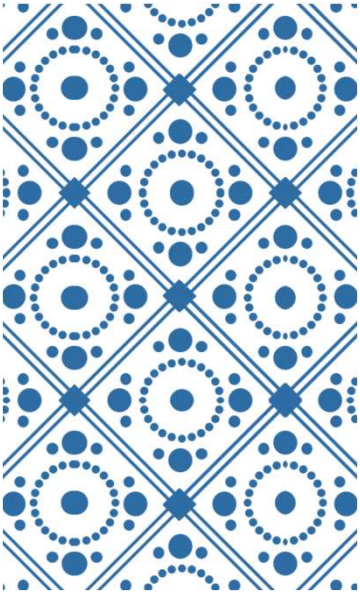


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# THE CASE OF THE CRANKY KID

Treatment of Pediatric Irritability



Consider Underlying Pathology

Family-Centered

Consider Additional Support

TREATMENT: MAIN POINTS



# TREATMENT: BEHAVIORAL INTERVENTIONS

## Parent Behavior Management

- Parent-Child Interaction Therapy (PCIT)
- Positive Parenting Program (Triple P)

## Child Therapy

- Cognitive Behavioral Therapy
- Dialectical Behavioral Therapy
- Multisystemic Therapy

## Medical Home Model of Care

- Family-Centered
- Effectively Coordinated
- Multidisciplinary Team
- Accessible



## TREATMENT: PHARMACOLOGICAL

What is the underlying condition?



## TREATMENT RECOMMENDATIONS

MDD	• Therapy & SSRI
GAD	• Cognitive Behavioral Therapy
ADHD	• Therapy & Stimulant
ODD/CD	• Parent Behavior Management & Therapy
BP	• Therapy & 2nd Generation Antipsychotics
DMDD	• Dialectical Behavioral Therapy



Class	Medication	FDA Indication	Concerning Side Effects	Common Side Effects
SSRI	Fluoxetine	• 1st Line treatment for 8-18 year-olds with MDD	• BBW for increased suicidality	• GI symptoms, including nausea, vomiting, diarrhea, or constipation
Stimulant	Methylphenidate	• 6-65 year-olds with ADHD	• BBW for dependency • HTN & Growth Suppression • Check Height, Weight, & BP at every visit	• Decreased appetite, insomnia, headache
	Dextroamphetamine	• ADHD as young as 3		
Alpha 2 Agonists	Guanfacine	• ADHD 6+ monotherapy or adjunct	• Rebound HTN with abrupt cessation	• Headache, dizziness, sedation, dry mouth
	Clonidine			
2nd Generation Antipsychotics	Risperidone	• BP1 Acute Mania/Mixed, 10-17 years-old • ASD Irritability 5-17 year-olds	• BBW increased risk mortality in elderly dementia patients • Tardive Dyskinesia • Neuroleptic Malignant Syndrome	• Extreme weight gain and Metabolic Syndrome • Check Height, Weight, & Waist Circumference at Baseline & Every Visit • Check Fasting Lipid Panel, Glucose, Liver Function 2x/year
	Aripiprazole	• BP1 Acute Mania/Mixed, 10-17 years-old • ASD Irritability 6-17 year-olds	• BBW increased risk mortality in elderly dementia patients and suicidality in kids • Tardive Dyskinesia • Neuroleptic Malignant Syndrome	

## PHARMACOLOGICAL TREATMENTS FOR IRRITABILITY





### Assessment

1. ADHD – Hyperactive/Impulsive Subtype
2. Oppositional Defiant Disorder

### Treatment

- Dexmethylphenidate XR
  - Start at 5 mg daily x 10 days, then increase to 10 mg daily
- Parent-Behavior Training & Family Therapy
- 504 Plan
  - Preferential Seating
  - Reward to Discipline Ratio 2:1
  - Break Space
- Daily Behavior Report Card



## CASE SCENARIO



## TAKE HOME POINTS

Pediatric irritability can be a manifestation of many diagnoses

Early identification of and intervention for developmental and behavioral diagnoses can improve outcomes

Differentiating diagnoses of irritability requires a thorough history, examination, and the use of screening tools

Using multiple screening tools, as well as screening tools with multiple informants, is recommended

Positive screening tools warrant further investigation



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QUESTIONS?

Please feel free to contact me via email at  
[carey.wheelhouse@unmc.edu](mailto:carey.wheelhouse@unmc.edu)

