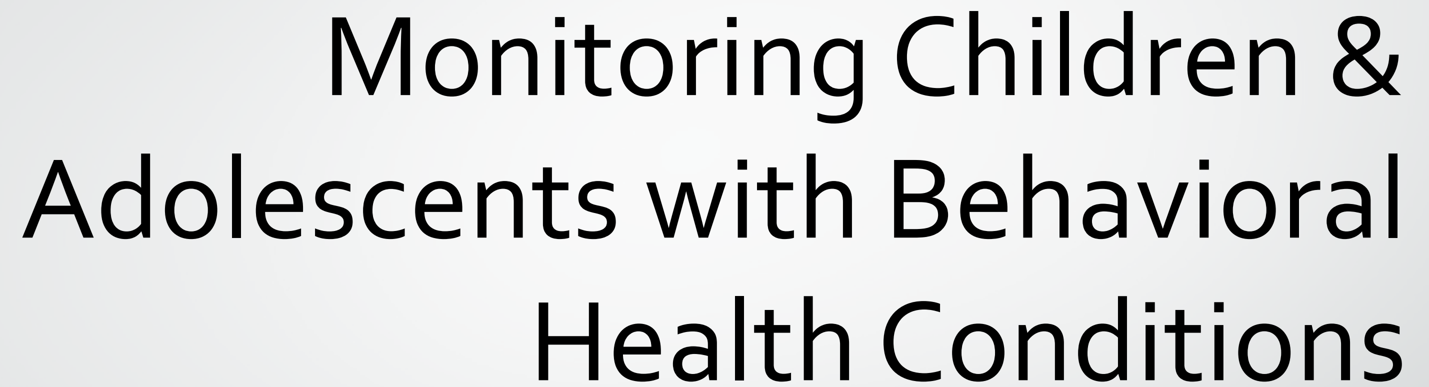

Monitoring Children & Adolescents with Behavioral Health Conditions

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Dale 13

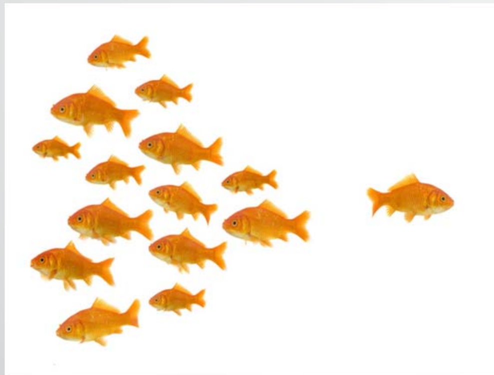
- Dale is a 13 y/o male who you have diagnosed with depression and ADHD CT comes in for his yearly well check-up with you. You have been prescribing Celexa 10mg and Concerta 36mg since his psychiatrist retired. Mom has the following concern:
  - "He's irritable, and I think he should be doing better in school."
- Dale doesn't have much to say and feels that everything is OK.

Dale

- Mom brought his Vanderbilts from school and home
- Discussion:
  - How would you score these and what does that mean?
  - What has changed?
  - What else would you want to ask about?
  - Is there any other screening you would do?

- Vanderbilt's- ADHD
- PHQ-9/A- Depression/Suicidality
- SCARED- Anxiety

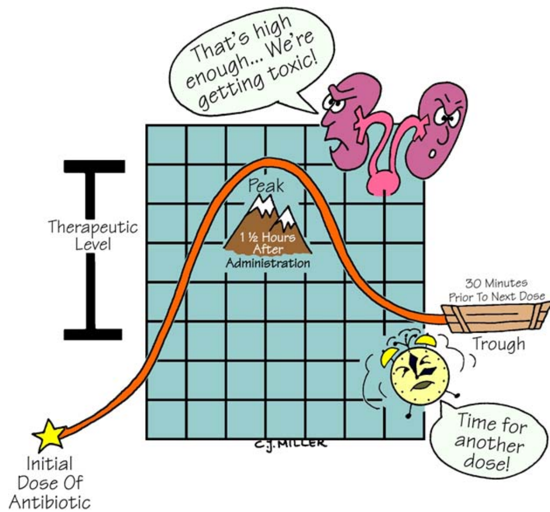
Assessing Treatment Response



Dale 15

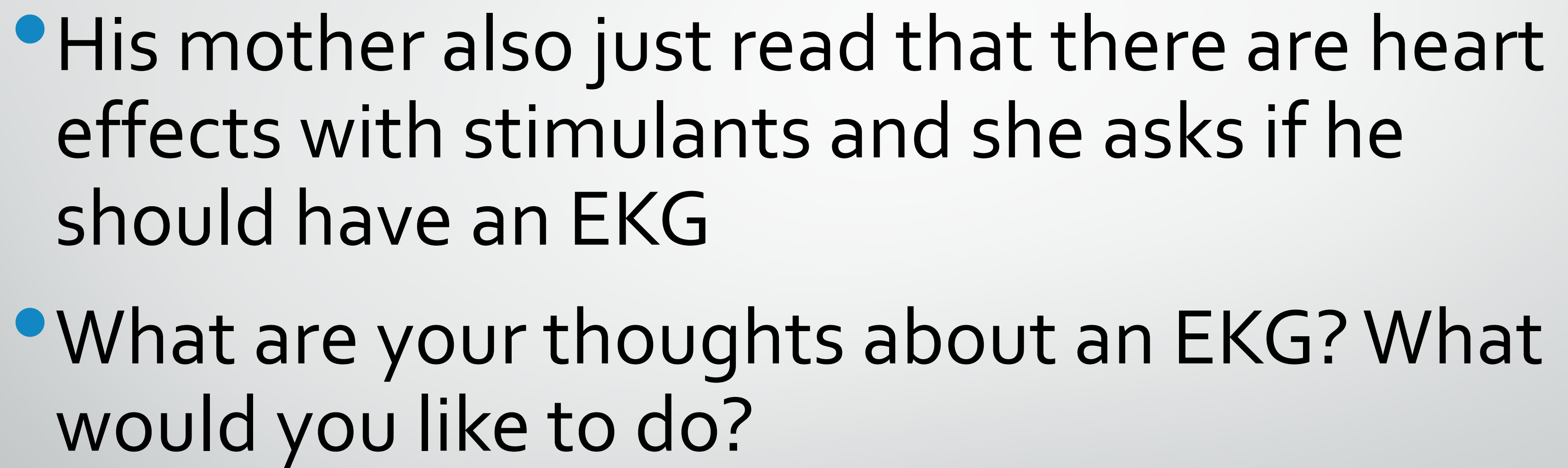
- Mom calls two years later requesting an increase in stimulant because Dale's grades are falling. He is constantly irritated with his mother. Vanderbilts and PHQ9 are repeated prior to the appointment and suggest that the ADHD hyperactivity and inattention symptoms are worse in school but the depressive symptoms are the same as the last visit so you increase his concerta to 54mg. He is now being seen a month after this increase in dose with a new set of Vanderbilts. What are potential next steps?

Other ways to screen



Dale 16

- Dale and his mother return a year later. It seems like his symptoms are much improved on his current medication regiment of Concerta 54mg and Celexa 20mg. He has lost 10 lbs since he was last seen and his mom is concerned about his lack of appetite. What do you have to say about the lack of appetite and what do you want to do?


His mother also just read that there are heart effects with stimulants and she asks if he should have an EKG
What are your thoughts about an EKG? What would you like to do?

Stimulants: EKG and Cardiology

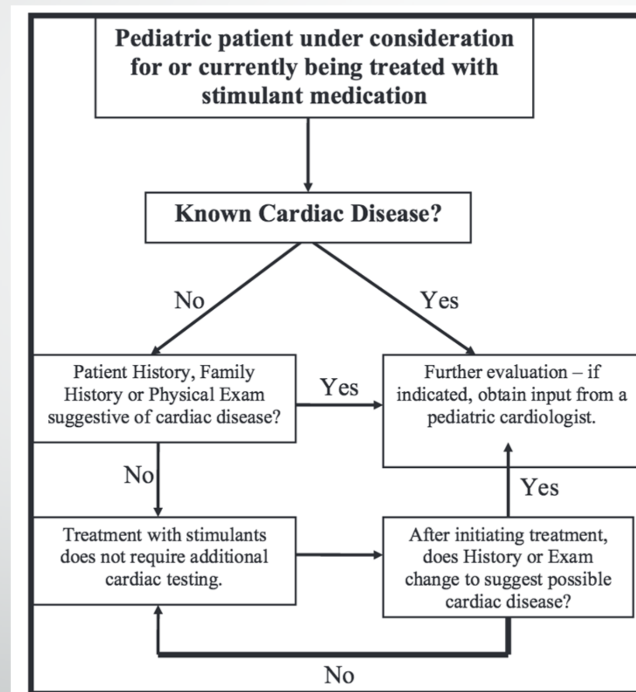


FIGURE 1
Cardiac evaluation of children and adolescents receiving or being considered for stimulant medications.

http://pediatrics.aappublications.org/content/pediatrics/122/2/451.full.pdf

Dale 17

- Dale was seen again a year later. Since that time you found out that he was admitted to an inpatient psychiatric hospital after SI. During the admission his Celexa and Concerta was stopped and he was started on Tenex 1mg BID and Strattera 30mg. His mom is wondering what side effects and screening need to be done for these new medications.

Non-stimulants: Alpha Agonists

- Blood pressure medicine- so screening blood pressure at each visit
- Review side effects: presyncope
- Similar to Stimulant guidelines for EKG and Cardiology

Non-stimulants: Strattera and Wellbutrin

- Black box warning
- Difference in time for efficacy (consistency is key)

Anakin 14

- Anakin is a 14 y/o who has been following in your practice and presents after a recent admission to the hospital for a manic episode and a new diagnosis of bipolar disorder. He is now on Risperidone 1mg BID and they are here for a refill of the medication as they don't have a follow-up with a psychiatrist. You agree to fill the medication and the next day you get a call from the pharmacy saying it requires a prior authorization to assure that you have been monitoring for "health problems and movements." What are they talking about? What might the insurance company be looking for?

Possible Risks associated with atypical antipsychotics

- Weight gain – should be monitored in all patients
- Metabolic changes – should be monitored in all patients
- Sedation
- Orthostatic hypotension
- Tachycardia
- Menstrual problems(some antipsychotics impact prolactin more than other)
- Blurred vision
- Skin rashes
- Sun sensitivity.
- Tardive dyskinesia - rare but irreversible
- Dystonic Reactions

Atypical Antipsychotics: Screening

- Insurance expectations could include
  - Metabolic screening at least annually
  - Abnormal Involuntary Movement Scale annually or with dose changes
  - Justification for some dose changes
  - Seen by a child psychiatrist

Atypical Antipsychotics: Metabolic Screening

Insurance Expectations:

- Fasting lipids and glucose
- Weight, Height and BMI

Baseline info	Personal and family history of obesity, T2DM, dyslipidemia, HTN, or heart disease
Baseline studies	Weight, height, waist circumference, BP, fasting blood glucose, fasting lipid profile
Follow-up labs in the first year of treatment	4 , 8 and 12 weeks and quarterly get waist circumference. 12 weeks get BP, fasting glucose and fasting lipids
Follow-up labs after 1 year of treatment	Annual updates of personal and family history, waist circumference, BP and fasting glucose. Fasting lipids to be obtained every 5 years

American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. Consensus Development Conference o Antipsychotic Drugs and Obesity and Diabetes. *Diabetes Care*. Vol 7 No 2 pages 596-601. February 2004. American Diabetes Association

Atypical Antipsychotics: Abnormal Involuntary Movement Scale (AIMS)

Abnormal Involuntary Movement Scale (AIMS)
Score Reporting Form

Salud MCO: ☐ Presbyterian ☐ Lovelace ☐ Cimarron   Date Administered: ____________

Last Name ____________ First Name ____________ M.I. ______ Age ______

DOB ________ SSN ________ Agency/Practitioner ____________ Psychiatrist ____________

DSM IV Diagnosis (list all Axis I & Axis II Codes) ____________

Antipsychotic meds prescribed (include frequency and dosage) ____________

According to Medicaid requirements in the state of New Mexico, all Medicaid recipients being prescribed the following antipsychotic medications: Haldol, Stelazine, Trilafon, Mellaril, Risperdal, Seroquel, Thorazine, Prolixin, Moban, Orap, Zyprexa, Clozaril (add any equivalent or same class drug) must receive an AIMS prior to taking the first dose of the drug (baseline) and every 3 months until the drug is discontinued. A copy of this report must be provided to the client's MCO/BHO (see bottom of page for addresses).

Evaluation Type: ☐ Baseline ☐ Start Open Meds ☐ During Open Meds ☐ Stop Open Meds

Instructions: Complete examination procedure before making ratings (see attached Examination Procedure). Rate highest severity observed according to the following scale.

Code:		
1	None	(item 10: No awareness)
2	Minimal extreme normal	(item 10: Aware, no distress)
3	Mild	(item 10: Aware, mild distress)
4	Moderate	(item 10: Aware, moderate distress)
5	Severe	(item 10: Aware, severe distress)

Facial and Oral Movements	**Circle or "X" Rating**				
1. Muscles of Facial Expression (e.g., movement of forehead, eyebrows, periorbital area, cheeks; including frowning, blinking, smiling, grimacing)	1	2	3	4	5
2. Lips and Perioral Area (e.g., puckering, pouting, smacking)	1	2	3	4	5
3. Jaws (e.g., biting, clenching, chewing, mouth opening, lateral movement)	1	2	3	4	5
4. Tongue (rate only increase in movement both in and out of mouth. NOT inability sustain movement)	1	2	3	4	5
Extremity Movements					
5. Upper (arms, wrists, hands, fingers). Include choreic movements (i.e., rapid, objectively purposeless, irregular, spontaneous), athetoid movements (i.e., slow, irregular, complex, serpentine). Do NOT include tremor (i.e., repetitive, regular, rhythmic)	1	2	3	4	5
6. Low (legs, knees, ankles, toes) (e.g., lateral knee movement, foot tapping, heel dropping, foot squirming, inversion and eversion of foot)	1	2	3	4	5
Trunk Movements					
7. Neck, shoulders, hips (e.g., rocking, twisting, squirming, pelvic gyrations)	1	2	3	4	5
Global Judgments					
8. Severity of abnormal movements	1	2	3	4	5
9. Incapacitation due to abnormal movements	1	2	3	4	5
10. Patient's awareness of abnormal movements (Rate only patients report)	1	2	3	4	5
Dental Status					
11. Current problems with teeth and/or dentures	1	2	3	4	5
12. Does patient usually wear dentures?	1	2	3	4	5

Signature of person administering the AIMS: ____________

Please retain the original in your case record and send a copy to your RCC or the appropriate BHO.

D:\Docstoc\Working\pdf\1dc4b0a7-68e3-4ce0-9e89-3b57eebe8239.doc   6/12/02

Anakin 16

- Anakin and his mom present two years later, and comes in to ask for an EKG because his psychiatrist just started him on celexa 20mg along with Risperidone 2mg daily and she read that the FDA said that Celexa can cause heart problems? What is she talking about? What would you do?

Drug Interactions: QTc - crediblemeds

QTC Meds Credible Meds	American Heart Association Recommendations	McNally P, et al. Recommendations
Before starting a medication	Evaluate for family history of long QT syndrome or sudden unexplained deaths. Medical history of palpitations, syncope, or near syncope. Medication History, Tell family about P450 affecting medications	Evaluate for family hx of sudden death, unexplained syncope or seizures, congenital heart dz, deafness, or electrolyte imbalances. Medication history. Tell families about P450 affecting medications.
If something on first eval is positive	Refer to a pediatric cardiologist before starting medication	Baseline EKG and if abnormal refer to a pediatric cardiologist
Follow-up visit	Evaluate for new medications with physical exam, HR and BP	Repeat EKG if got one before, otherwise no repeat EKG, evaluate for new meds
When an EKG	If starting a TCA or phenothiazine and when at steady state	If abnormal history/risk factors and repeat when returning after starting the medication

Drug Interactions: QTc

Type of Medication	Medication
Antibiotics/Antifungals	Macrolides, Quinolones, Pentamadeine, Chloroquine, Halofrantrine, Flunoazole, Ketoconazole, Voriconazole
Antiarrhythmics	Quinidine, Procainamide, Dispyramide, Sotalol, Amiodarone, Dofetilide
Diuretic	Furosemide
Estrogen Antagonist	Tamoxifen
Opiod antagonist	Methadone

Drug Interactions: QTc

Medication	Risk of Prolonged QTc	Risk of Torsades de Pointes
TCAs	Highest	Highest
Citalopram	Highest	Highest
Escitalopram	Highest	Highest
Fluvoxamine	Low	Low
Sertraline	Low	Low
Fluoxetine	Low/Least	Low/Least
Paroxetine	Least	Least

Medication	Risk of Prolonged QTc	Risk of Torsades de Pointes
Haldol (IV)	Highest	Highest
Haldol (PO/IM)	Med	Med
Ziprasidone	Highest	Low
Risperidone	Low	Low
Olanzapine	Low	Low
Quietapine	Low	Low
Aripiprazole	Least	Least

Anakin 17

- Anakin comes back to see you and is excited to talk about his new job volunteering in the hospital, but in the process he had to get a TB test done. It was positive and the infectious disease doctors told him he would have to start Isonazid but if he did he would have to stop the Celexa, why is that and is that true? What would you be worried about?

Drug Interactions: CYP-450 Basics

- Lots of non-psychiatric medications influence the CYP-450 system and may impact psychotropic medications
- As a general rule:
  - If the new medication inhibits a substrate of the CYP-450 system expect it will INCREASE the level of the psychiatric medication
  - If the new medication activates a substrate of the CYP-450 system expect it will DECREASE the level of the psychiatric medication

Drug Interactions: CYP-450 Basics

Drug Name	Drug Class	Effect on Cytochrome P450
Clarithromyicin	Antibiotic	Inhibitor
Erythromyicin	Antibiotic	Inhibitor
Fluconazole	Antibiotic	Inhibitor
Ketoconazole	Antibiotic	Inhibitor
Itraconazole	Antibiotic	Inhibitor
Miconazole	Antibiotic	Inhibitor
Fluroquinolones	Antibiotic	Inhibitor
Isoniazid	Antibiotic	Inhibitor
Ritonavir	Antiviral	Inhibitor
Delaviridine	Antiviral	Inhibitor
Idinavir	Antiviral	Inhibitor
Saquinavir	Antiviral	Inhibitor
Nelfinavir	Antiviral	Inhibitor
Cimetidine	H2 Blocker	Inhibitor
Rantidine	H2 Blocker	Inhibitor
Lansoprazole	PPI	Inhibitor
Omeprazole	PPI	Inhibitor

Drug Interactions: CYP-450 Basics

	Medication	Metabolized by or Substrate of	Induces	Inhibits
SSRI	Citalopram	**3A4, 2C19,** 2D6	None known	1A2, 2B6, 2C19, 2D6
	Escitalopram	**2C19, 3A4,** 2D6	None known	1A2, 2C9, 2C19, 2D6, 2E1, 3A
	Fluoxetine	**2C9, 2D6,** 1A2, 2B6, 2C19, 2E1, 3A4	None known	**2D6,** 2C19 (m), 1A2, 2B6, 2C9
	Fluvoxamine	**1A2, 2D6**	None known	**1A2, 2C19,** 2B6, 2C9, 2D6, 3A4
	Paroxetine	**2D6**	None known	**2D6,** 2B6 (m), 1A2, 2C9, 2C19, 3A4
	Sertraline	**2D6,** 2B6, 2C9, 2C19, 3A4	None known	2B6 (m), 2C19 (m), 2D6 (m), 3A4 (m), 1A2, 2C8, 2C9

	Medication	Metabolized by or Substrate of	Induces	Inhibits
Stimulant	Amphetamine	**2D6**	None known	2D6
	Dextroamphetamine	2D6	None known	None known
	Lisdexamfetamine	None	None known	None known
	Methylphenidate	2D6	None known	None known
Other	Armodafinil	**3A4**	3A4	2C19 (m)
	Atomoxetine	**2D6,** 2C19	None known	None known
	Clonidine	None known	None known	None known
	Guanfacine	**3A4**	None known	None known
	Modafinil	**3A4**	1A2, 2B6, 3A4	**2C19,** 1A2, 2A6, 2C9, 2E1, 3A4

http://www.ct.gov/dcf/lib/dcf/ccmu/pdf/cyp_chart_nov_2013.pdf

Drug Interactions: CYP-450 Basics

Drug Name	Drug Class	Effect on Cytochrome P450
Isoniazid	Antibiotic	Activator
Carbamezapine	Anticonvulsant/psychiatric	Activator
Phenytoin	Anticonvulsant	Activator
Ethanol	N/A	Activator
St. John's Wart	N/A	Activator
Tobacco	N/A	Activator
Phenobarbitone	Barbituate	Activator
Rifampin	Antibiotic	Activator

Serotonin Syndrome

Signs of Serotonin Syndrome

- Agitation or restlessness
- Confusion
- Rapid heart rate and high blood pressure
- Dilated pupils
- Loss of muscle coordination or twitching muscles
- Muscle rigidity and/or hyperreflexia
- Heavy sweating
- Diarrhea
- Headache
- Shivering
- Goose bumps

Severe Serotonin Syndrome

- High fever
- Seizures
- Irregular heartbeat
- Unconsciousness

Diagnosis

- Spontaneous clonus
- Inducible clonus PLUS agitation or diaphoresis
- Ocular clonus PLUS agitation or diaphoresis
- Tremor PLUS hyperreflexia
- Hypertonia PLUS temperature above 38ºC PLUS ocular clonus or inducible clonus

Questions??

Resources

- QT meds: crediblemeds.com
- CYP-450: http://www.ct.gov/dcf/lib/dcf/ccmu/pdf/cyp_chart_nov_2013.pdf
- Massachusetts screening tool options: http://www.mass.gov/eohhs/gov/commissions-and-initiatives/cbhi/screening-for-behavioral-health-conditions/behavioral-health-screening-tools/chart-of-masshealth-approved-screening-tools.html
- AAP screening tool sheet: https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Mental-Health/Documents/MH_ScreeningChart.pdf
- Information about coding for mental health: http://pediatrics.aappublications.org/content/pediatrics/125/Supplement_3/S140.full.pdf

References

- http://pediatrics.aappublications.org/content/pediatrics/122/2/451.full.pdf (ADHD and EKGs)
- https://video.search.yahoo.com/yhs/search;_ylt=AoLEVvk4UfxXzFYAkzknnIlQ?p=Abnormal+involuntary+movement+scale&fr=yhs-mozilla-001&fr2=piv-web&hspart=mozilla&hsimp=yhs-001#id=1&vid=cf72339802556fae7ff5bcf54f9766d5&action=view- AIMS video
- http://www.ct.gov/dcf/lib/dcf/ccmu/pdf/cyp_chart_nov_2013.pdf

American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. Consensus Development Conference on Antipsychotic Drugs and Obesity and Diabetes. *Diabetes Care*. Vol 7 No 2 pages 596-601. February 2004. American Diabetes Association