What is a Developmental Behavioral Pediatrician (DBP)?

• Board-certified pediatric sub-specialist
  – 3 year pediatric residency
  – 3 year DBP fellowship
  – Areas of focus vary, but may include cerebral palsy, autism spectrum disorders, genetic disorders, ADHD, and other learning/behavior problems

• Older children are seen by our Child/Adolescent psychiatrist, Khyati Brahmbhatt, M.D.

CABIL developmental-behavioral pediatric assessment

• Areas of focus:
  – Medical issues
  – Developmental concerns (in coordination with psychologist’s assessment)
  – Behavioral/mental health problems
  – Treatments and interventions

• Methods
  • Interview with parents
  • Interview with child
  • Physical examination
  • Questionnaires
Medical Issues

- Medical surveillance
  - EKG, echocardiogram, renal ultrasound, etc.
  - [http://cabil.mindinstitute.org](http://cabil.mindinstitute.org) “Educational Videos”
- Current concerns
  - Fatigue
  - Sleep problems
  - Recurrent infections
  - Growth

Developmental Concerns

- Current level of functioning
  - Input from neuropsychological assessment performed by psychologist
  - Cognitive, speech, fine and gross motor, adaptive

- Developmental Delay
  - When/how to tell children about 22q11.2DS
  - Transition after high school, driving, etc.

- Accessing IEP/school services
Behavioral Concerns

• ADHD
  • Questionnaire: SNAP-IV (Swanson, Nolan and Pelham)
    • Screens for associated conditions as well
  • Inattentive/easily distracted
    • Other causes for inattentive or noncompliant behaviors?

• Anxiety:
  • Questionnaire: BASC-2 (Behavior Assessment System for Children, 2nd edition)
  • Phobias, Generalized Anxiety, Separation Anxiety, Obsessive Compulsive Disorder
  • Anxiety can manifest as other behaviors
    • Somatization, Inattention, Avoidance, Repetitive questioning, Oppositional/defiant etc.

Behavioral Concerns (cont.)

• Social competency
  • Questionnaire: SCQ (Social Communication Questionnaire)
  • Autism symptoms and social skills*
    • Reported up to 30% in the literature but this is based on screening tests, most are PDD-NOS (pervasive developmental disorder-not otherwise specified)
    • Socially motivated, but poor social skills due to developmental delay, language difficulties, concrete thinking, and/or anxiety

• Depression

• Unusual behaviors
  • Tics, hallucinations, others
Treatments/Recommendations

• Varies based on individual needs

• Behavioral (to discuss later)
• Educational (to discuss later)
• Medical
  – Labs/procedures
    • Thyroid, calcium, complete blood count, etc.
  – Medications
    • Anxiety: usually serotonin reuptake inhibitors (SSRI)
    • ADHD: usually stimulants, also atomoxetine (Strattera) or clonidine/guanfacine (use with caution if cardiac history)

Stimulants for ADHD

• Why the concern?
  – Cardiac side-effects; FDA black box warning
  – Psychotic symptoms?
  – Growth
  – Altered dopamine levels in 22q11.2DS due to COMT?
Stimulants in 22q11.2DS

• Gothelf 2004 (4 weeks treatment)
  – 12 children with ADHD
  – Low dose methylphenidate

• Gothelf 2011 @ VCFSEF 20011 (6 months treatment)
  – 22 children treated
  – No psychotic/manic symptoms
  – Mild elevations in blood pressure

• Conclusion:
  – methylphenidate is effective and usually well-tolerated
  – be aware of side effects and potential risks
  – must weigh risks/benefits with your provider
Gothelf 2004

- Methylphenidate Treatment for ADHD in Children and Adolescents with VCFS: An Open-Label Study
  - 40 children; 18 with ADHD (12 treated)
  - Ages 5-20 years
  - Low-dose 0.3 mg/kg; short acting methylphenidate
  - 4 weeks of treatment
    - 75% (9) responded (>30% reduction in symptoms)
    - None discontinued
    - Side effects: poor appetite, irritability, sadness, stomachache
    - No psychotic/manic symptoms

Follow-up study (Gothelf 2011)

- 34 children with 22q11.2DS
  - Ages 5-20 years
  - 22 treated, 12 placebo
    - 0.5 mg/kg methylphenidate
    - 6 months
  - Treated group showed 40% improvement in attention, hyperactivity, conduct and Total Conners scores
  - Treated group had mild elevations in blood pressure and heart rate

- Conclusion: methylphenidate is effective and usually well-tolerated; be aware of side effects and potential risks; must weigh risks/benefits with your provider