Schizophrenia (Early Onset)

Level 0
Comprehensive assessment: Diagnosis based on symptom presentation, mental status examination findings (e.g., responding to internal stimuli, bizarre beliefs, disorganized speech) and course of illness, especially either a decline in function or failure to progress. Many youth report experiences suggestive of psychosis, but do not present with overt disruptions in thinking and behavior characteristic of schizophrenia. Assess potential confounding factors, including any history of significant developmental problems, mood disorders, trauma or substance abuse.

Helpful clinical tools include:

**Structured diagnostic interviews**
- Kiddie-SADS-Present and Lifetime Version (K-SADS-PL)
- Structured Clinical Interview for DSM, Childhood Version (KID SCID)

**Symptom questionnaires**
- Positive and Negative Syndrome Scale (PANSS)
- Brief Psychiatric Rating Scale for Children (BPRS-C)

Links to clinical tools listed above are available at [http://medicaidmentalhealth.org](http://medicaidmentalhealth.org)

Level 1
Monotherapy with an antipsychotic agent FDA-approved to treat schizophrenia in adolescents:
- Risperidone, aripiprazole, quetiapine, paliperidone (ages 13 years and older)
- Haloperidol, perphenazine, thiothixene (ages 12 years and older)

First-line medication choice is based on side effect profile, patient/family preference and cost. For all antipsychotic trials, systematic side effect monitoring is needed, including extrapyramidal side effects and metabolic monitoring per ADA guidelines. Adjunctive agents may be indicated to treat/prevent EPS or metabolic side effects.

A therapeutic trial is generally defined as 4 to 6 weeks with doses up to FDA-approved dosages in adults (with allowances for children < 13 years of age), as tolerated. However, if there is no response after two weeks at a therapeutic dose, consider changing to a different agent (Level 2).

Youth with schizophrenia and their families also need intensive support and case management services, including psychoeducational therapies addressing treatment options, safety planning and relapse prevention; and other resources such as special education and/or vocational programs.

Notes:
1. Risperidone is often used first since the agent has been well studied in pediatric populations, and is available as a generic.
2. Olanzapine is FDA approved to treat schizophrenia in adolescents (ages 13 years and older). However, given the risk of metabolic side effects, olanzapine is not generally recommended as a first-line treatment.
3. Although the traditional neuroleptics, e.g., haloperidol, perphenazine and thiothixene are FDA approved for use in adolescents, they have not been as well studied as the newer second generation medications in the pediatric population.
4. Paliperidone is a metabolite of risperidone and more expensive.
Schizophrenia (Early Onset) (continued)

Level 2
Monotherapy with alternative drug FDA-approved to treat schizophrenia in adolescents (from Level 1 above, or olanzapine) if the first agent tried is not effective or poorly tolerated.

Level 3
Monotherapy with alternative drug FDA-approved to treat schizophrenia in adolescents (from Level 1 above or olanzapine), or with an antipsychotic FDA-approved for adults*, but not approved for children and adolescents.

Notes:
1. For nonresponses to second generation agents, consider trial of first generation agent.
2. Ziprasidone was not found to be superior to placebo for treating adolescent schizophrenia. (Findling et al., 2013), and therefore is not recommended for treating schizophrenia in this age group.
3. Clozapine is reserved for treatment refractory cases (see Level 5).

For patients with treatment failure exacerbated by noncompliance, psychosocial strategies should be enhanced to address adherence, including developing strategies to better monitor medication administration. Treatment with a long-acting depot antipsychotic agent may also be considered. Available agents include risperidone microspheres, paliperidone palmitate, aripiprazole extended-release injectable suspension, olanzapine pamoate*, haloperidol decanoate, fluphenazine decanoate. None of these agents are FDA approved for use in youth.

Note: Olanzapine pamoate has been linked with a potentially life-threatening post injection syndrome, http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm357601.htm

Level 4
In combination with antipsychotic monotherapy, adjunctive treatment with a mood stabilizer or an antidepressant may be considered to target comorbid mood symptoms or aggression.

Level 5
Clozapine trial for treatment refractory cases.

Notes:
1. Treatment refractory defined as failing with two or more therapeutic trials of an antipsychotic agent.
2. Clozapine requires an intensive monitoring protocol.

Level 6
For patients that have failed to respond to multiple different anticonvulsants, diagnostic reevaluation and consultation are indicated. Electroconvulsive therapy (ECT) may be considered for adolescents with schizophrenia who do not adequately respond to, or cannot tolerate, antipsychotic medications; or those suffering from catatonia.
References