Growth: Addressing Concerns and Management

Data Collection Tool for the Generalist

Directions: You will be pulling active charts of patients seen by your practice for at least **3 visits** (at least one of which was a health supervision visit).

1) **Pull 10 or more random patient charts**

2) **Pull 5 or more charts of patients with abnormal growth or pubertal development** (See Identifying Charts with Growth Concerns)

3) **Review all documentation related to the patient's growth and pubertal development within the last 12 months.**

4) **Answer the questions based on actual documentation and not on memory or inference.**

All Patients

1. Were all essential growth parameters discussed with the patient/family at the most recent health supervision visit?
   O Yes O No

2. Was the age-appropriate presence or absence of secondary sexual characteristics documented at the most recent health supervision visit?
   O Yes O No

   If Yes to question 2
   2a Were the results of the pubertal assessment discussed with the patient/family, if applicable, at the visit?
   O Yes O No O N/A, patient not of pubertal age, no clinical indications, or no concerns identified

3. Were the patient and family asked if they had concerns about the patient's growth or pubertal development?
   O Yes O No

CHECKPOINT #1

Does this patient have suspected or confirmed abnormal growth or pubertal development?
O Yes O No

If **No** to Checkpoint #1, **STOP**. You have completed the review for this patient.
If **Yes** to Checkpoint #1, please **CONTINUE** answering the remaining questions.

Patients with suspected or confirmed abnormal growth or pubertal development.

4. Was mid-parental height calculated and documented?
   O Yes O No O Not obtainable (ie, one parent not involved, child adopted without biological parent information, etc)

5. Did follow-up occur within the suggested time interval? (1 month if <1 year; 2-4 months if 1-3 years; 3-6 months if >3 years of age)
   O Yes O No O N/A, time interval has not lapsed

6. If additional laboratory and imaging assessments for the growth concern is indicated, has a plan for the work-up been documented in the patient's chart? (See the growth assessment flow diagram for suggested assessments when evaluating a child with abnormal growth or pubertal development as a starting point of reference.)
   O Yes O No O No additional assessments indicated

7. If diagnostic tests were ordered, were they completed and reviewed by the physician?
   O Yes O No O Unknown O N/A, tests still in progress O No tests ordered

8. Were educational materials or web-based links provided to the patient and family about the suspected growth or pubertal development concern?
   O Yes O No

9. Was an assessment made for potential growth-related psychosocial issues for the patient and family?
   O Yes O No

10. Was **all** of the following information sent or made available to the endocrinologist with the referral?

- ☐ History
- ☐ Physical examination
- ☐ Growth charts
- ☐ Medications, if any
- ☐ Laboratory and imaging results, if any (See the growth assessment flow diagram for suggested studies when evaluating a child with abnormal linear growth as a starting point of reference)
- ☐ Summary of case (ie, impression of growth concern)
- ☐ Assessment of psychosocial concerns
- ☐ Contact information for the referring physician
- ☐ Contact information for the patient/family

O Yes O No O N/A, not referred to endocrinologist

Appendix

Health Supervision Visit

Intervals recommended by the AAP for preventive pediatric health care (as outlined in Periodicity Schedule) include: at birth; age 2–4 days; 2 weeks; 2, 4, 6, 9, 12, 15, 18 and 24 months; and yearly through age 21.

Identifying Charts with Growth Concerns

All practices may approach how they identify this patient population differently; below are some suggestions on how you may go about this:

- By growth-related diagnosis codes in EMR database
- By growth-related billing codes in database
- Clinician recall of patients they have been following for growth concerns
- Flagged charts of patients being followed for growth concerns (ie failure to thrive, short stature, abnormal or decreased growth velocity)

Essential Growth Parameters

Generalist requirements at every health supervision visit

For children ages 0 through 23 months, plot on WHO charts:

☐ Head circumference
☐ Weight-for-age percentile
☐ Length-for-age percentile
☐ Weight-for-length percentile (recommended, but not required for this exercise)

For children age 2 years and older, plot on CDC charts:

☐ Weight-for-age
☐ Stature-for-age
☐ BMI-for-age

For all ages

☐ Pubertal staging

Generalist requirement when abnormal growth is suspected

☐ Mid-parental height

Endocrinologist requirements at every health supervision visit

☐ All generalist requirements listed above
☐ Growth velocity

Additional endocrinologist requirements at the initial visit

☐ Upper to lower segment ratio
☐ Mid-parental height

Pubertal Assessment

- ✓ A detailed description of pubertal status should be documented at least once yearly and include that the breast and genitalia (for girls) or genitalia alone (for boys) have been examined.
- ✓ Sexual Maturity Rating (SMR) documentation is recommended for both males and females.
  - In female patients, it is appropriate to document that the external genital anatomy is that of a normal female.
  - In male patients, it is appropriate to document that the genitalia are normal and specifically that both testes are scrotal.

- Any anatomic variants or issues of early or delayed onset should be specifically described and a plan established for appropriate further evaluation.

Mid-parental Height (MPH) Calculations

Mid parental height can be calculated in the following two ways:

MPH calculation (inches):

For girls: ((Father's height - 5 inches) + Mother's height) divided by 2
For boys: ((Mother's height + 5 inches) + Father's height) divided by 2

1 standard deviation (SD) = 2 inches
2 SD = 4 inches

Target height range = mid-parental height +/- 4 inches.
1 inch = 2.54 cm

MPH calculation (centimeters):

For girls: ((Father's height - 13 cm) + Mother's height) divided by 2
For boys: ((Mother's height + 13 cm) + Father's height) divided by 2

1 standard deviation (SD) = 5.1 cm (many clinicians round to 5)
2 SD = 10.2 cm (rounded to 10 cm)

Target height range = mid-parental height +/- 10.2 cm

95% of normal children have a predicted adult height that is within 4 inches above or below the mid-parental height calculation.

Psychosocial Issues **(Growth and Pubertal Development-related)**

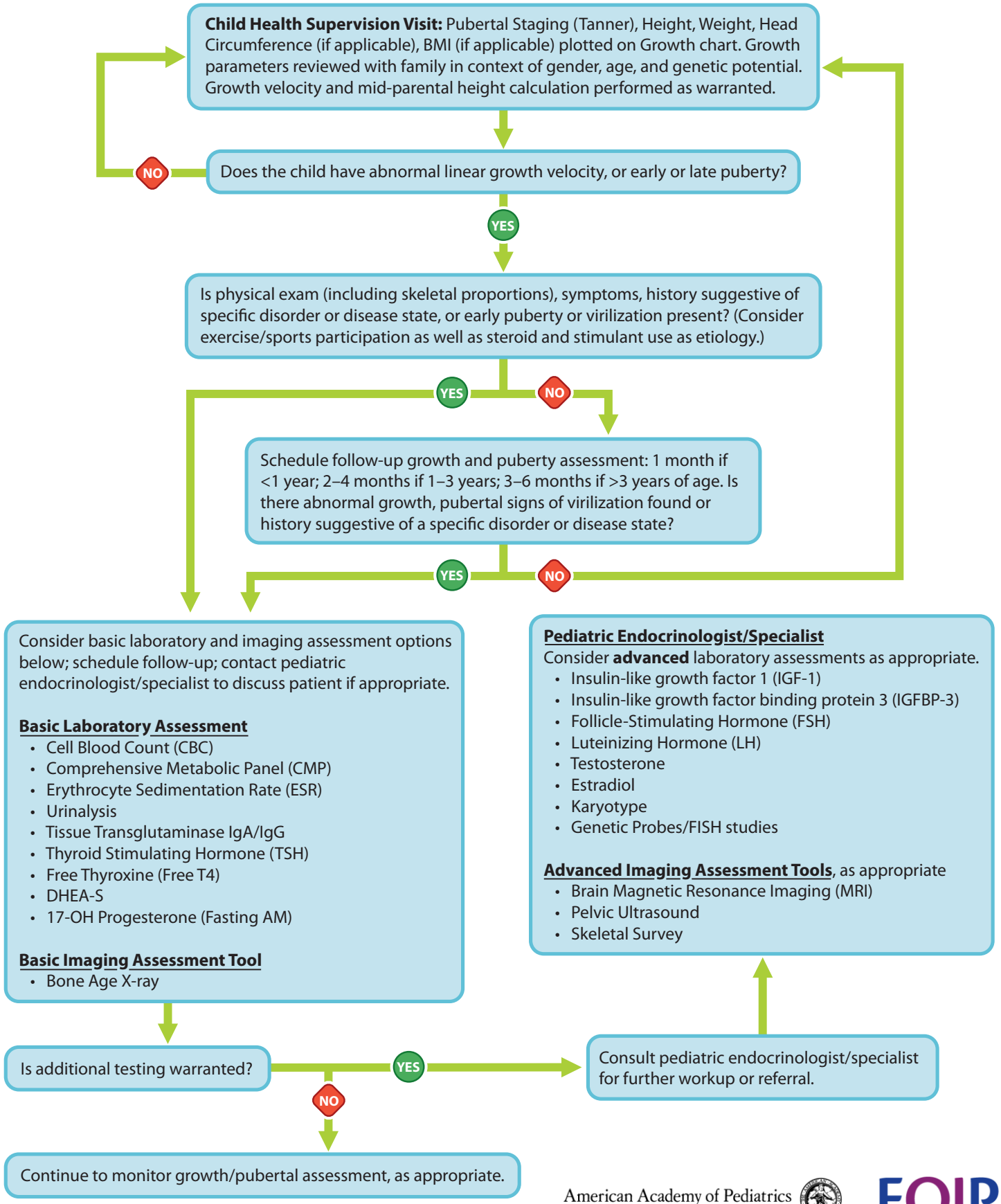
Among others, identify and address the following psychosocial issues based on the patient's age, patient/family requests, and clinical indications founded on your team's assessment:

1. Coping with growth and pubertal development disorders, including peer relations and social adjustment
2. Family involvement
3. Non-adherence
4. Anxiety and depression
5. Disordered eating behaviors
6. Risk-taking behaviors such as drug abuse, alcohol, and tobacco use
7. Contraception
8. Preparing for college
9. Communication with parents and with growth care team
10. Transition to adult health care

Note: This list is not intended to be an exhaustive inventory of psychosocial issues requiring surveillance, but rather some essential and practical issues common in growth and pubertal care.

Growth Assessment Flow

The evaluation of growth and pubertal development is an integral part of the well-child exam. When a child has abnormal growth, coordinated efforts can identify the next steps necessary to further evaluate the problem. The following diagram may be helpful in developing a plan for the evaluation of growth concerns. **Since clinical practice varies, a discussion between the generalist and pediatric endocrinologist is strongly recommended to determine how this flow fits with recommendations for assessing growth in a specific patient.**



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