

CHOC-PSF Pediatric Endocrinology Consult and Referral Guidelines

Diagnosis/symptom

Refer to Endocrinology when

Pre-referral Workup

Growth Disorders:

Short Stature

ICD-9 Code: 783.43

Children meet one or more of the following criteria:

- Child's height falls below the 3rd percentile
- Child's height is crossing down percentiles between age 3 and the start of puberty (declining growth velocity).
- When a child is significantly shorter than expected for family
- A child is growing poorly and is having headaches or vision changes
- If predicted adult height of child falls below the FDA criteria of 4'11" for a girl or 5'4" for a boy.

- ▶ Bone age X-ray of left hand and wrist (bring film to visit)
 - ▶ Thyroid tests (total T4 and TSH)
 - ▶ Panel 18 ▶ ESR ▶ CBC
 - ▶ UA
 - ▶ Celiac Screen (Anti-Tissue Transglutaminase IgA and IgG, IgA level)
Quest test codes 11073 and 539
 - ▶ Growth chart
 - ▶ Parental heights
 - ▶ IGF-1 (Insulin Growth Factor 1)
Quest test code 839. Esoterix test code 500282.
 - ▶ IGF-BP3 (Insulin growth factor binding protein 3)
Quest test code 34458. Esoterix test code 500281.
- Boys 13 years old or over:
- ▶ LH by ICMA Quest test code 17744. Esoterix test code 500234.
 - ▶ FSH by ICMA Quest test code 36087. Esoterix test code 500192.
 - ▶ Pediatric Testosterone Quest test code 15983. Esoterix test code 500286.
- Girls 12 years old or over with delayed puberty:
- ▶ LH by ICMA Quest test code 17744. Esoterix test code 500234.
 - ▶ FSH by ICMA Quest test code 36087. Esoterix test code 500192.
 - ▶ Ultrasensitive Estradiol Quest test code 30289. Esoterix test code 500152.
- Girls that are <3rd % for height:
- ▶ Karyotype (Chromosome analysis to evaluate for Turner's syndrome)

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Growth Disorders:

Tall Stature

ICD-9 Code: 781-99

- Child is extremely tall for family or when child is >2 years of age and is progressively crossing centiles for height before puberty

- ▶ Prior growth data and growth charts are the most essential elements to send with referral.
- ▶ Bone age X-ray of left hand and wrist (have patient bring X-ray to clinic)

Obesity

ICD-9 Code: 278.00

The Endocrine clinic accepts referral for obesity when there is clear evidence of some endocrine disorder. Obesity with tall stature or normal growth velocity is rarely of endocrine cause.

We do see children with impaired glucose tolerance or Type 2 diabetes.

Although we do not have a weight management clinic, we do have a lipid clinic for patients who have a cholesterol or triglyceride level greater than or equal to 300 mg/dl. To refer a patient to the CHOC Lipid Clinic, call 714-221-5500.

Recommended tests:

- ▶ TSH & T4
- ▶ Lipid profile
- ▶ Random glucose and/or 2 hour glucose tolerance test

The criteria for diagnosis as recommended by The American Diabetes Association (ADA) includes:

Impaired glucose tolerance:

- ▶ A fasting glucose of >100 to 126; or
- ▶ An oral glucose tolerance test (OGGT) with oral postload value of 140 to 200.

Type 2 diabetes:

- ▶ A fasting blood glucose >126; or
- ▶ Random blood glucose >200.

These values have to be repeated on a second day, unless a child is symptomatic.

- ▶ If Cushing syndrome suspected, order 24 hour urine free cortisol and/or p.m. cortisol. Refer if abnormal.

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Thyroid Disorders:

Congenital Hypothyroidism

ICD-9 Code: 243.0

- Abnormal newborn screen, refer immediately.
- Mark referral **urgent**.

- ▶ Do confirmatory T4 & TSH
- ▶ Call endocrinologist on-call (714-532-8634) to determine thyroid replacement dose to begin immediately.

Acquired Hypothyroidism (Hashimoto's Thyroiditis)

ICD-9 Code: 245.2

- Elevated TSH > 10 mIU/ml, low total T4/free T4
- If TSH is abnormal but < 10mIU/ml and T4/free T4 are normal, obtain thyroid antibodies and repeat TFTs (Total T4 and TSH) in 2-3 months. If TSH is rising, submit referral.

- ▶ Thyroglobulin Antibodies (Anti-Tg) Recommended:
Quest code 267 / Esoterix 500038
- ▶ Thyroid Peroxidase Antibodies (Anti-TPO) Recommended:
Quest Code 5081 / Esoterix 500042

Note: Thyroid scan/US is not needed

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**Neonatal
Hyperthyroidism**
ICD-9 Code: 775.3

- Elevated T4/free T4 and suppressed TSH in newborn screen.

- Mark referral as **urgent**.

Note: Usually occurs in context of mother with Grave's disease

- ▶ Contact endocrinologist on call (714-532-8634).

**Acquired
Hyperthyroidism
(Grave's disease)**
ICD-9 Code: 242.00

- Elevated T4/free T4, suppressed TSH (<0.30)

- If T4 markedly elevated or child symptomatic, mark referral as **urgent**.

- ▶ Contact endocrinologist on call (714-532-8634)

- ▶ Total T4/free T4
- ▶ T3
- ▶ TSH
- ▶ Thyroglobulin Antibodies (Anti-Tg): Quest code 267/Esoterix 500038
- ▶ Thyroid Peroxidase Antibodies (Anti-TPO) Quest Code 5081/Esoterix 500042

Note: Thyroid scan/US is not needed

Goiter
ICD-9 Code: 240.9

- Abnormal thyroid function tests
- Palpable nodules or asymmetry
- Goiter increasing in size and/or causing discomfort

- ▶ Total T4/Free T4
- ▶ TSH
- ▶ Thyroglobulin Antibodies (Anti-Tg): Quest code 267/Esoterix 500038
- ▶ Thyroid Peroxidase Antibodies (Anti-TPO) Quest Code 5081/Esoterix 500042

Note: Thyroid scan/US is not needed unless goiter increasing in size or nodules palpated, then US recommended.

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Pubertal Disorders:

Precocious Puberty

ICD-9 Code: 259.1

- Breast development or pubic hair in girls < 8 years old
- Testicular enlargement (4 cc or >2.5 cm) or pubic hair in boys < 9 years of age

- ▶ Growth data/charts are most essential
- ▶ Obtain bone age (bring film to visit)
- ▶ T4 and TSH

Girls:

- ▶ LH by ICMA Quest test code 17744. Esoterix test code 500234.
- ▶ FSH by ICMA Quest test code 36087. Esoterix test code 500192.
- ▶ Ultrasensitive Estradiol Quest test code 30289. Esoterix test code 500152.

Boys:

- ▶ LH by ICMA Quest test code 17744. Esoterix test code 500234.
- ▶ FSH by ICMA Quest test code 36087. Esoterix test code 500192.
- ▶ Pediatric Testosterone Quest test code 15983. Esoterix test code 500286.

Premature Thelarche In girls < age 8

ICD-9 Code: 259.1

- Progressing over time
- Accelerated growth
- Vaginal bleeding
- Café au lait spots on physical exam (possible McCune Albright Syndrome)

- ▶ Obtain bone age (bring film to visit)

Note: A little breast development in girls 12 to 24 months of age is not uncommon and usually not of concern.

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Delayed Puberty

ICD-9 Code: 259.0

Refer to Endocrinology when

Boys:

- No testicular enlargement by 14 years of age

Girls:

- No breast development by 13 years of age or no menses by 16 years of age

Pre-referral Workup

- ▶ Obtain bone age (bring film to visit)

- ▶ Total T4 and TSH

- ▶ LH by ICMA

- ▶ FSH by ICMA

Quest test code 17744. Esoterix test code 500234.

Quest test code 36087. Esoterix test code 500192.

Girls:

- ▶ Ultrasensitive Estradiol Quest test code 30289. Esoterix test code 500152

Boys:

- ▶ Pediatric Testosterone Quest test code 15983. Esoterix test code 500286.

Diabetes Mellitus

When diagnosis of Type 1 or 2 diabetes is new and no treatment has been started, mark referral as **urgent**.

When child is being evaluated for diabetes because of symptoms (weight loss, polyuria, polydipsia or polyphagia), check blood glucose in office or have random glucose done at lab. If blood glucose is >200, this is diagnostic of diabetes and patient should be referred to CHOC Emergency Department to implement treatment and teaching.

Note: If child is being evaluated for diabetes because of obesity, please see obesity protocol.

- ▶ Contact endocrinologist on call (714-532-8634).