Functional Hypothalamic Amenorrhea

Diagnosis, evaluation, and treatment of FHA — including bone health and fertility management — in adolescents and women.

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Functional Hypothalamic Amenorrhea Guideline
Gordon et al. · JCEM 2017;102:1413-1439

GRADE — 1 · Strong For | 2 · Suggest For | 2- · Suggest Against | Ungraded / Best Practice

1 Diagnosis

GPS	Diagnose FHA **only after excluding** anatomic or organic pathology of amenorrhea — FHA is a diagnosis of exclusion.
2	Evaluate for FHA if menstrual cycle interval **persistently exceeds 45 days** and/or amenorrhea has lasted **3 months or more**.
2	Screen all patients with FHA for **psychological stressors** — perfectionism, high need for social approval, and other determinants of stress sensitivity.

2 Evaluation

GPS	**Detailed history:** diet, eating disorders, exercise/athletic training, perfectionism, weight fluctuations, sleep, stressors, mood, menstrual pattern, fractures, substance abuse — plus family history of eating and reproductive disorders.
1	**Exclude pregnancy** and perform a full physical exam, including gynecological (external ± bimanual) exam, to evaluate organic etiologies.
1	**Screening labs:** β-hCG, CBC, electrolytes, glucose, bicarbonate, BUN, creatinine, liver panel, ± ESR/CRP.
1	**Endocrine labs:** TSH, free T4, prolactin, LH, FSH, estradiol, AMH — add total testosterone + 8 AM 17-hydroxyprogesterone if hyperandrogenism or suspected late-onset CAH.
1	**Brain MRI** with pituitary cuts + contrast for severe/persistent headache, non-self-induced vomiting, change in vision/thirst/urination, lateralizing signs, or findings suggesting pituitary hormone excess/deficiency.
2	**Progestin challenge** (after excluding pregnancy) to assess chronic estrogen exposure and outflow-tract integrity. **Baseline DXA** if ≥6 months amenorrhea (earlier if severe nutritional deficit/fragility). Evaluate **Müllerian anomalies** in primary amenorrhea (exam ± progestin challenge, ultrasound, and/or MRI).

3 Treatment — General & Bone Health

1	Evaluate for **inpatient treatment** if severe bradycardia, hypotension, orthostasis, and/or electrolyte imbalance.
1	**Correct the energy imbalance** to restore HPO axis function — increased caloric intake, improved nutrition, and/or decreased exercise; often requires weight gain and behavioral change.
2	**Psychological support** (e.g., cognitive behavioral therapy) for underlying stressors.
2-	**Against** OCPs solely to regain menses or improve BMD; **against** bisphosphonates, denosumab, testosterone, and leptin for BMD.
2	Consider **short-term transdermal E2 + cyclic oral progestin** (not OCPs) if menses haven't returned after a reasonable nutritional/psychological/exercise trial. In rare adult cases with delayed fracture healing and very low BMD, short-term **rPTH(1-34)** is an option.

4 Fertility

2	**Pulsatile GnRH** as first-line induction; cautious **gonadotropin therapy** if GnRH unavailable; **clomiphene citrate** if sufficient endogenous estrogen.
2-	**Against kisspeptin and leptin** for infertility treatment. A trial of CBT can be considered — minimal potential harm despite limited evidence.
2	Induce ovulation only if **BMI ≥18.5 kg/m²** and after attempts to normalize energy balance — risk of fetal loss, small-for-gestational-age infants, preterm labor, and cesarean delivery otherwise.

Remember — Irregular menses during the recovery phase do not require immediate evaluation and do not preclude conception — educate patients accordingly.

Gordon CM, Ackerman KE, Berga SL, et al. Functional Hypothalamic Amenorrhea: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab.* 2017;102(5):1413-1439.