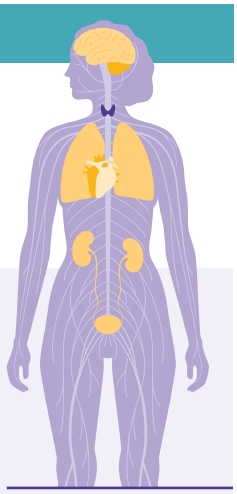
FAST FACTS

HypoPARAthyroidism (Also called "hypoPARA")



What Is HypoPARAthyroidism?

Defined as hypocalcemia in the presence of an undetectable, low, or insufficient parathyroid hormone (PTH) level.

Confirmed by blood tests on 2 occasions, at least 2 weeks apart.

Abnormalities that support diagnosis:

- Hyperphosphatemia
- Low serum level of 1,25 dihydroxy Vitamin D
- History of thyroid or neck surgery
- High 24-hour urine calcium levels
- Caution - Biotin (vitamin B7) intake can lead to falsely low PTH values in a few assays

Postsurgical hypoPARA is considered permanent (chronic) if it persists >12 months after surgery.

Types of HypoPARAthyroidism

Postsurgical (78% of cases)
Nonsurgical (less common)

- Genetic
- Idiopathic
- Functional (high or low serum magnesium)
- Destruction of glands (i.e. copper overload, hemochromatosis, radiation therapy)

Note: PseudohypoPARAthyroidism is a rare inherited disorder that mimics hypoPARAthyroidism, characterized by resistance to PTH. Instead of having low PTH levels, people with pseudohypoPARAthyroidism have elevated levels of PTH.

Body Systems Affected by HypoPARAthyroidism

Renal
- Nephrocalcinosis
- Kidney stones
- Chronic kidney disease
- Elevated serum phosphate level

Peripheral Nervous
- Paresthesia
- Muscle cramps
- Tetany

Neuropsychiatric
- Cognitive dysfunction
- Poor quality of life
- Symptoms of anxiety and depression
- Poor memory
- Brain fog

Central Nervous
- Seizures
- Brain calcifications
- Parkinsonism or dystonia

Cardiovascular
- Arrhythmias
- Hypocalcemia-associated dilated cardiomyopathy

Respiratory
- Laryngospasm
- Bronchospasm or wheezing

Ophthalmological
- Cataracts
- Papilledema

Dental
- Altered tooth morphology

Causes of HypoPARA[1]

78%	Postsurgical
9%	Other Causes
7%	Genetic
6%	Idiopathic

1 Clarke BL, Brown EM, Collins MT, et al. Epidemiology and diagnosis of hypoparathyroidism. J Clin Endocrinol Metab. 2016;101(6):2284-2299. doi:10.1210 jc.2015-390

PTH Therapy

In August 2024, the FDA approved YORVIPATH® — a prodrug of parathyroid hormone (PTH), administered once-daily, designed to provide continuous exposure to active PTH over the 24-hour dosing period — the only FDA-approved treatment for hypoPARA. For more information, visit www.yorvipath.com.

Therapies in the pipeline:

Eneboparatide	**Alexion.com**
Encalaret	**Bridgebio.com**
MBX 2109	**MBXBiosciences.com**
SEP-786	**Septerna.com**

Conventional Therapy

Goal of conventional therapy with calcium and active vitamin D is to raise serum calcium into the lower half of or just below the normal reference range, alleviate symptoms of hypocalcemia, avoid hypercalciuria, and maintain normal serum phosphate level.

- **Calcium citrate or calcium carbonate**
  - Not more than 500mg–600mg per dose.
  - Best taken with meals to control serum phosphate levels.
- **Vitamin D analogues: calcitriol or alphacalcidiol**
  - Consider cholecalciferol or ergocalciferol to maintain 25-hydroxyvitamin D (25(OH)D) levels in normal range.

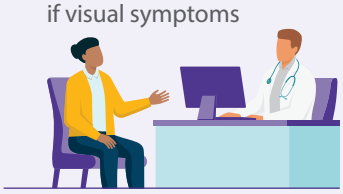
Routine Monitoring

Every 3-4 months
- Serum calcium (albumin corrected or ionized)
- Magnesium
- Serum creatinine/eGFR
- Phosphate

Every 6-24 months
- 24-hour urine calcium and creatinine
- 25 OH(D)

Baseline Tests
- Renal imaging with ultra-sound and or x-ray (KUB)
- Eye exam

Repeat Tests
- Renal imaging if patient has kidney stones or kidney disease and or high 24-hour urine calcium levels (>400mg/day and or low urine citrate levels (<300 mg/day), calcifications or stones on imaging, or declining renal function.
- Ophthalmologic exam if visual symptoms



Additional Tests

- **DXA BMD** (Dual X-ray absorptiometry bone mineral density) is not needed routinely and may in fact not reflect bone strength accurately given most hypoPARA patients tend to have overly dense bones without a high fracture risk.
- **Risk of worsening hypocalcemia:** In hypoPARA patients who also have osteoporosis, BE VERY CAUTIOUS USING BISPHOSPHONATE RX*s (such as Reclast®, Fosamax®, Actonel®, or Boniva®) as well as Prolia® (denosumab) DUE TO THE RISK OF HYPOCALCEMIA!

*RX: Prescription

This document gives an overview of basic facts about hypoPARAthyroidism, its diagnosis, and available treatment options. While this brochure contains important information about hypoPARAthryoidism, **the patient's individual course of testing, treatment, and follow-up may vary for many reasons**.

HypoPARAthyroidism Association

Our mission is to improve the lives of people impacted by hypoPARAthyroidism through education, support, research, and advocacy. **Learn more at www.hypopara.org.**

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Medical Advisors

We are fortunate to have a distinguished group of Medical Advisors comprised of professionals with world-recognized expertise in hypoPARAthyroidism. They provide valuable counsel and support of HPA goals in education, treatment, and research.

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Resources

PubMed PMID: 26943719
PubMed PMID: 26135962
PubMed PMID: 30540559

This brochure combines the significant efforts of HPA's Medical Advisors and Board members. We greatly appreciate everyone's expertise and support.

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