



Do you see patients  
with any of the following  
symptoms in your practice?<sup>1</sup>

- Bone/joint/muscle pain
- Chronic fatigue
- Developmental delays
- Fractures
- Impaired gait, ambulation, motor function
- Muscle weakness
- Premature loss of primary teeth
- Short stature

# Hypophosphatasia (HPP) should be in your differential diagnosis<sup>1</sup>

## LOW ALP ACTIVITY DISTINGUISHES HPP FROM SIMILARLY PRESENTING CONDITIONS<sup>1</sup>

### DIFFERENTIAL DIAGNOSIS: SHORT STATURE<sup>1-5,a</sup>

- Crohn's disease
- Cushing syndrome<sup>b</sup>
- Ehlers-Danlos syndrome
- Growth hormone deficiency
- **Hypophosphatasia<sup>b</sup>**
- Hypopituitarism
- Hypothyroidism<sup>b</sup>
- Inflammatory bowel disease
- Nutritional rickets
- Osteogenesis imperfecta<sup>b</sup>
- Skeletal dysplasias
- Systemic juvenile idiopathic arthritis
- Undernutrition<sup>b</sup>

<sup>a</sup>This differential is not an all-inclusive list. <sup>b</sup>Can also be a cause of low ALP.<sup>6,7</sup>

### DIFFERENTIAL DIAGNOSIS: PREMATURE TOOTH LOSS<sup>8-11,a,b</sup>

- Aggressive periodontal disease
- Chédiak-Higashi syndrome
- Chronic/cyclic neutropenia
- Dentinogenesis imperfecta
- Ehlers-Danlos syndrome
- **Hypophosphatasia<sup>a</sup>**
- Leukemia
- Papillon-Lefèvre syndrome
- Trauma
- Vitamin C deficiency<sup>c</sup>

<sup>a</sup>This differential is not an all-inclusive list. <sup>b</sup>Premature tooth loss occurring before 5 years of age.<sup>12</sup>

<sup>c</sup>Can also be a cause of low ALP.<sup>6,7</sup>

ALP, alkaline phosphatase.

1. Rockman-Greenberg C. *Pediatr Endocrinol Rev*. 2013;10(suppl 2):380-388. 2. Rogol AD. UpToDate. Causes of short stature. <https://www.uptodate.com/contents/causes-of-short-stature>. Accessed May 17, 2018. 3. Guo MH, et al. *Horm Res Paediatr*. 2014;82(1):44-52. 4. Dauber A, et al. *J Clin Endocrinol Metab*. 2014;99(9):3080-3092. 5. Munns CF, et al. *J Clin Endocrinol Metab*. 2016;101(2):394-415. 6. Whyte MP. In: Goriunov FH, et al. eds. *Pediatric Bone*. 2nd ed. London, UK: Elsevier; 2012:771-794. 7. McKiernan FE, et al. *Osteoporos Int*. 2017;28(8):2343-2348. 8. Bloch-Zupan A. *Int J Paediatr Dent*. 2016;26(6):426-438. 9. Sharma G, et al. *Eur Arch Paediatr Dent*. 2011;12(6):312-317. 10. Whyte MP. In: Thakker RV, et al. eds. 2013:337-360. 11. Mornet E, et al. GeneReviews. Seattle, WA: University of Washington, Seattle; 1993-2018. <https://www.ncbi.nlm.nih.gov/books/NBK1150/>. Updated February 4, 2016. Accessed February 14, 2018. 12. Simmons JH. [https://www.mdedge.com/sites/default/files/issues/articles/Alexion\\_10\\_11\\_Final\\_Web.pdf](https://www.mdedge.com/sites/default/files/issues/articles/Alexion_10_11_Final_Web.pdf). Published September 30, 2013. Accessed March 26, 2018.