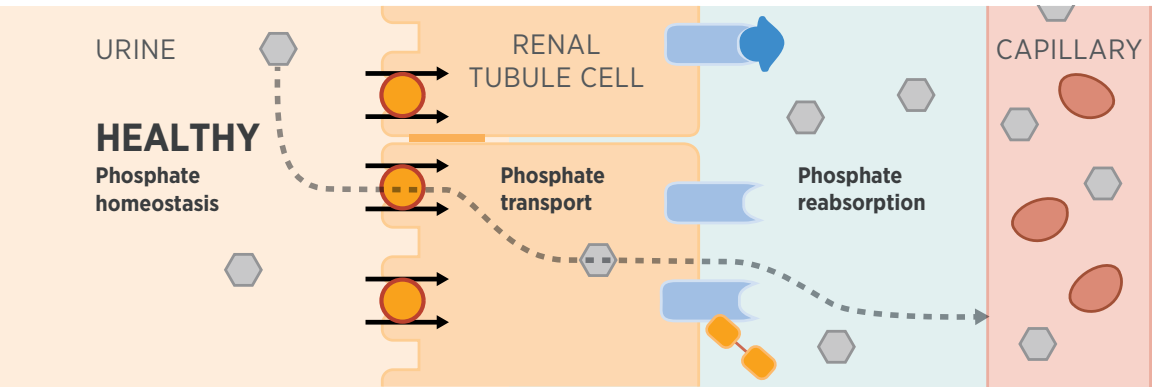


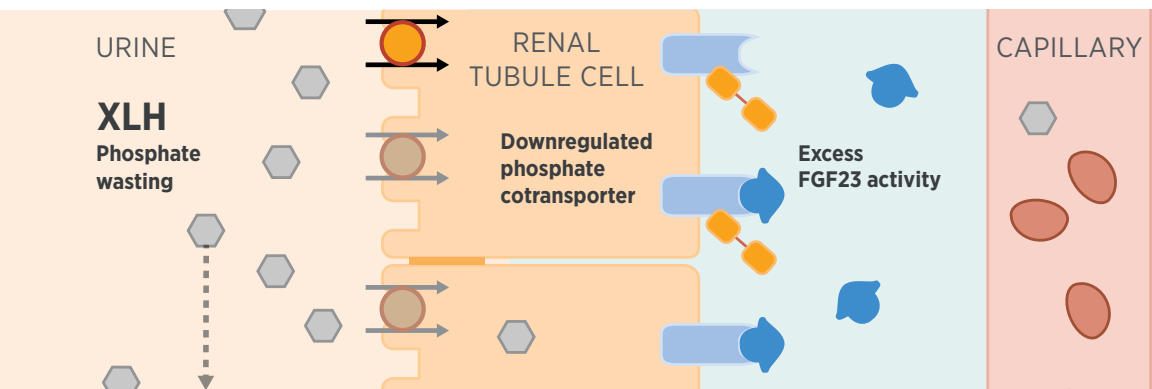
# X-linked hypophosphatemia (XLH) is an FGF23-mediated disorder<sup>1</sup>

XLH is a rare genetic disorder characterized by chronic hypophosphatemia resulting from excess circulating FGF23<sup>2</sup>

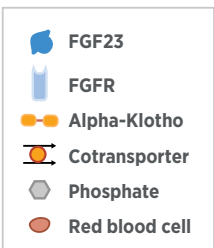
In healthy individuals, FGF23 helps maintain phosphate homeostasis, which is critical to lifelong skeletal health<sup>3</sup>



In XLH, excess FGF23 acts on the kidney to inhibit renal tubular reabsorption, resulting in phosphate wasting<sup>3</sup>



Chronic hypophosphatemia



**CHRONIC HYPOPHOSPHATEMIA LEADS TO THE SKELETAL MANIFESTATIONS OF XLH<sup>1,3</sup>**



# The consequences of XLH have a sustained impact on skeletal health<sup>3</sup>

## In childhood, defects in bone growth from chronic hypophosphatemia can result in<sup>1</sup>:

- Rickets
- Osteomalacia
- Genu varus and genu valgum
- Gait disturbances
- Diminished height
- Bone pain
- Dental abscesses

## In adults, persistent osteomalacia from chronic hypophosphatemia can result in<sup>4,5</sup>:

- Gait disturbance resulting from childhood skeletal defects
- Joint/bone pain
- Risk of nontraumatic fractures
- Additional consequences including joint misalignment leading to osteoarthritis and stiffness, muscle weakness, dental abscesses, and hearing loss

**REFERENCES:** **1.** Carpenter TO, Imel EA, Holm IA, Jan de Beur SM, Insogna KL. A clinician's guide to X-linked hypophosphatemia. *J Bone Miner Res.* 2011;26(7):1381-1388. doi:10.1002/jbmr.340. **2.** Lu Y, Feng JQ. FGF23 in skeletal modeling and remodeling. *Curr Osteoporos Rep.* 2011;9(2):103-108. doi:10.1007/s11914-011-0053-4. **3.** Razzaque MS, Lanske B. The emerging role of the fibroblast growth factor-23-klotho axis in renal regulation of phosphate homeostasis. *J Endocrinol.* 2007;194(1):1-10. **4.** Skrinar A, Marshall A, San Martin J, Dvorak-Ewell M. X-linked hypophosphatemia (XLH) impairs skeletal health outcomes and physical function in affected adults. Presented at: 97th Annual Meeting of the Endocrine Society (ENDO); March 5-8, 2015; San Diego, CA; Poster SAT-244. **5.** Ruppe MD. X-linked hypophosphatemia. In: Pagon RA, Adam MP, Ardinger HH, et al., eds. GeneReviews® [Internet]. Seattle, WA: University of Washington, Seattle; 1993-2015. <http://www.ncbi.nlm.nih.gov/books/NBK83985/>. Published February 9, 2012. Updated October 16, 2014. Accessed April 21, 2016.

