



# Nicotinamide and phosphate homeostasis in chronic kidney disease

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## Purpose of review

Higher serum phosphate concentration is a central driver of the chronic kidney disease (CKD) mineral bone disorder (MBD). Although phosphate binders are commonly used to lower phosphate, they are minimally effective in CKD. Nicotinamide (vitamin B3) decreases intestinal phosphate transport in animals. Its efficacy and safety in CKD is uncertain.

## Recent findings

We review data differentiating nicotinamide from nicotinic acid (niacin) and compare the metabolism and side-effect profile of each. Several recent studies have tested the safety and efficacy of nicotinamide in patients with CKD and the general population. Available data on efficacy and safety, gaps in knowledge, and ongoing studies to address them are described.

## Summary

Nicotinamide is a novel potential tool to treat hyperphosphatemia in patients with CKD, but additional data on safety and efficacy are required before widespread clinical use.

## Keywords

kidney disease, mineral bone disorder, nicotinamide, osteodystrophy

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