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Released: 01/10/2025
Valid until: 01/10/2026
Time needed to complete: 54m

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The Dietary Challenge: Phosphate Restriction in Patients With CKD

Announcer:

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Episode 3

Dr. Fishbane:
This is CME on ReachMD. I'm Dr. Steven Fishbane at Northwell Health in New York. Here with me today is Dr. Kathleen Hill Gallant. And today we're going to be focusing on dietary aspects of what we could do to effectively treat hyperphosphatemia, and what are specifically the dietary aspects of that.

Dr. Hill Gallant:
Yeah, thank you. It's great to be here for this conversation.

So there's a lot that we can do with diet to help treat hyperphosphatemia, but there are some limitations. And one of those limitations is that we have phosphorus everywhere in our diet, so we consume about twice as much of the phosphorus as we need, so up to about 1,500 mg per day, whereas the recommendation is 700 for just healthy adults. So we really have a lot. And that's because it's found in all sorts of protein foods, which can really be at odds with also, especially for those on hemodialysis who need to get more protein.

So one of the most effective strategies is to target looking for the phosphate additives that are added to foods, because those are in a highly absorbable form of phosphorus, so say sodium phosphates that our body is readily able to take up, and that type of phosphate isn't necessarily associated with protein. So you can decrease that phosphate and not harm your protein intake.

So on the other hand, the more natural forms of phosphorus that are found in our protein foods. So in both animal-based proteins, from meat products, from dairy, and then our plant sources, which are really some of them very high in just total amounts of phosphorus. So things like nuts and whole grains, seeds, those have a lower absorbability of the phosphorus. So those are able to maybe be consumed in higher amounts than was originally thought, because maybe that plant protein phosphorus is only absorbed about half as much as the phosphorus that's coming from those inorganic phosphate additives that are added to foods.

So another point about that is that when it comes to our evidence for effectiveness of dietary phosphorus restriction strategies is that we really only have kind of stronger evidence for the effectiveness of targeting those phosphate additives. So that has been shown in studies where you can have a significant reduction in serum phosphate by having an intervention of teaching patients to look for the phosphate additives on the ingredient list. And that is in contrast to the kind of lack of evidence for just broadly restricting phosphorus from some of those natural sources.

So challenged though with having that as our main way to reduce the amount of dietary phosphorus that is consumed is that it does take quite a bit of education and teaching for patients. They need to be taught to read ingredient lists that can be very long, very tiny

print. And it's really having to be like a detective and looking for those four letters: P-H-O-S for phos in all of these different phosphate food additives. And there's about 50 of them that are approved. And they have all sorts of really useful functions in our processed foods for emulsification, for shelf stability, those sorts of things. But they're really hidden in those ingredient lists, and so that is something that's very hard because we don't typically see phosphorus just on the nutrition facts label in terms of the milligrams that are in a serving. Sometimes manufacturers can choose to put that on their label, but they don't have to. They don't have to quantify or disclose how much phosphate or added phosphates are in their foods. So it really is kind of a blunt tool to have to go and search for those ingredients. But it has been shown to be an effective strategy.

I think that a lot of my patients that are newer to dialysis, there's just a lot that's going on that the patient has to try to absorb. And for phosphorus specifically, because the dialysis we're doing, the use of a phosphate binder or a phosphate absorption inhibitor is very helpful. Patients got a lot of control on the dietary side.

Dr. Fishbane:
And the additive part I think is really interesting. You suggest look for those four letters and that there is evidence that if patients are able to try to understand a little bit better some of the additives with phosphorus, that that's a good route towards contributing to the control for phosphorus, is that right?

Dr. Hill Gallant:
Yeah, absolutely. Like you mentioned, these are additive effects, and so if you can eliminate or reduce at least some of that phosphorus that is being consumed is going to kind of help with being able to reduce that overall phosphate burden.

Dr. Fishbane:
Yeah, I think it's really an interesting subject, and it's one of those areas where the patient can have control over one of the things that we discuss with them on such a regular basis.

Thank you, Dr. Hill Gallant. And thank you listeners for being part of this program. Thank you.