

## Improving Gut Dysbiosis in Patients with CKD and ESRD

Gut health is currently defined by high diversity in the gut microbiome. Factors that impact gut health and diversity include several factors, many of which fall under the umbrella of diet and lifestyle. Patients with chronic disease, including kidney disease, have been found to have reduced diversity and gut dysbiosis. Research indicates improving gut health can reduce uremic toxins in patients at all stage of CKD and convey additional health benefits.

### Major Consequences of Gut Dysbiosis:

- Increased gut pH
- Malabsorption
- Increased intestinal permeability
- Inflammation
- Oxidative stress
- Insulin resistance

### Improving Gut Health

For Patients with CKD:	For ESRD on Dialysis:
<p><i>Focus on fiber</i></p> <ul style="list-style-type: none"> <li>➤ Gradually increase fiber intake to 25-35g/day</li> <li>➤ Be mindful of fluid intake while increasing fiber to avoid negative side effects</li> <li>➤ Avoid pitfalls of crowding out other important nutrients by focusing on balance with other nutrients.</li> </ul>	<p><i>Focus on correcting malabsorption</i></p> <ul style="list-style-type: none"> <li>➤ Target diet and lifestyle factors that support gut health</li> <li>➤ Be mindful of increasing fiber in patients with strict fluid restrictions and gastroparesis</li> <li>➤ Supplement nutrients in easily absorbed forms</li> <li>➤ Consider bypassing the gut using IDPN or IPN in patients not responding to increased oral protein intake.</li> </ul>
<p>Research indicates probiotics may be beneficial if they are coupled with diet and lifestyle changes.</p>	

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