
How Does Metabolic Acidosis Impair Muscle and Bone Health?

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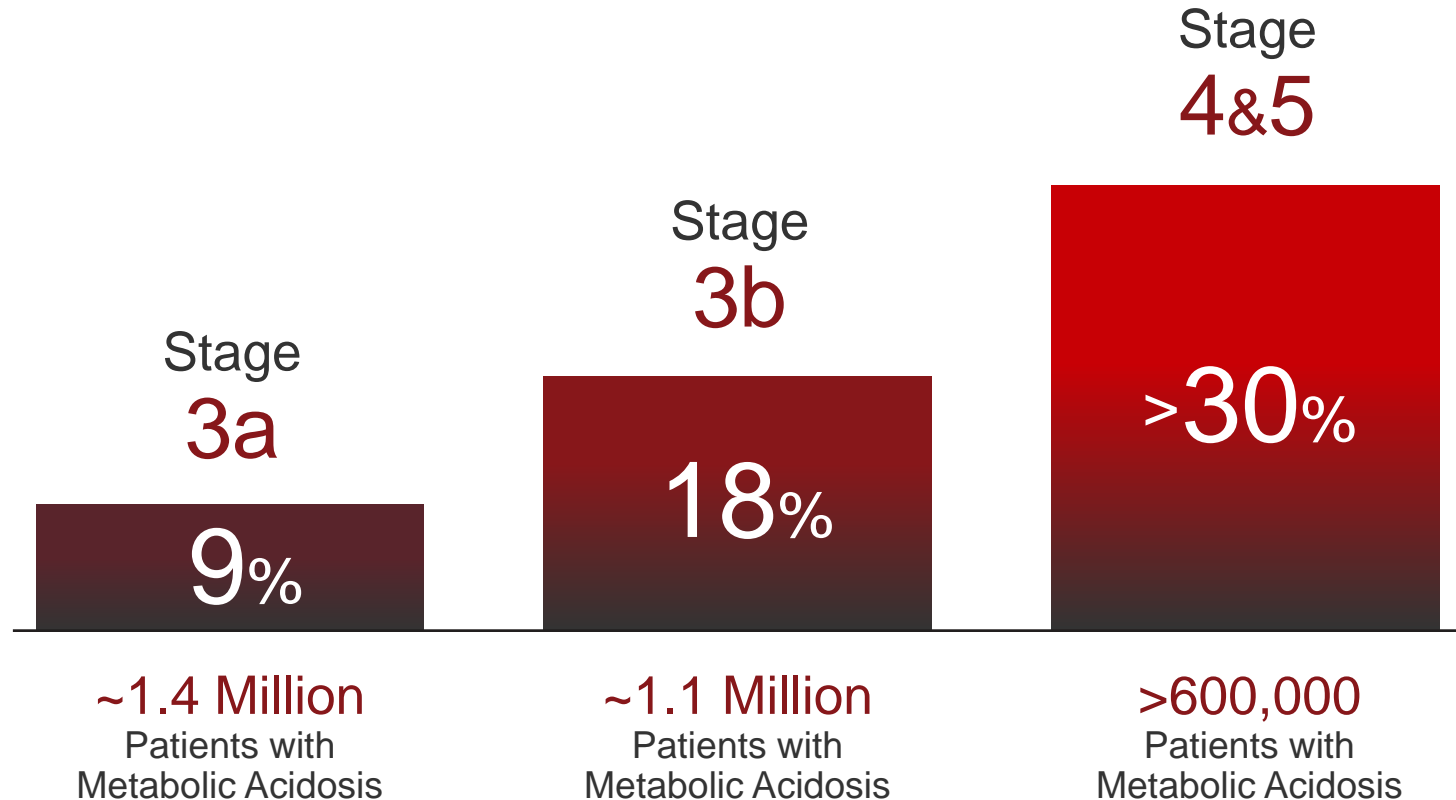
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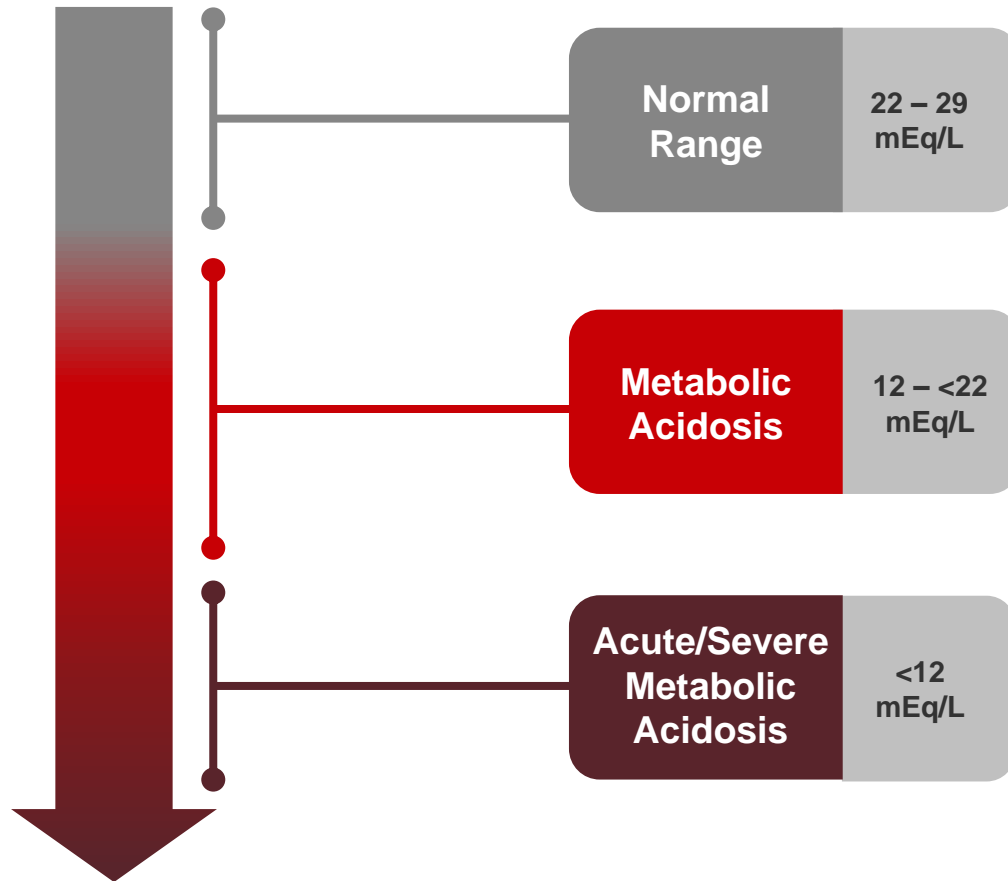
Disclosure: Dr. Bushinsky is a consultant to Tricida, Inc.

Three Million Patients with Stage 3 to 5 CKD Affected by Metabolic Acidosis



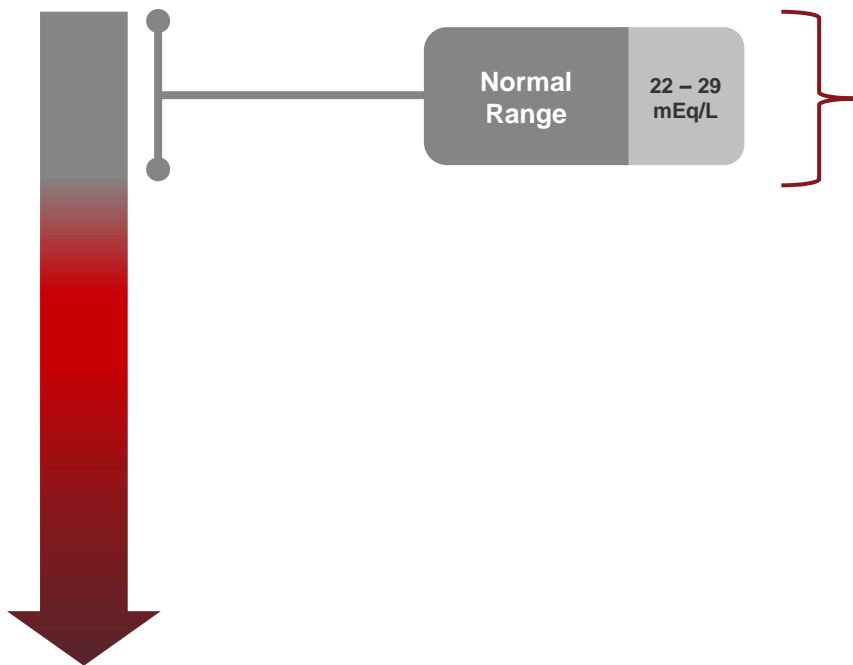
Metabolic Acidosis as Defined by Guidelines

Serum Bicarbonate Levels Fall Below 22 mEq/L



Body Adapts Prior to Decrease from Normal Serum Bicarbonate Range

Serum Bicarbonate Levels

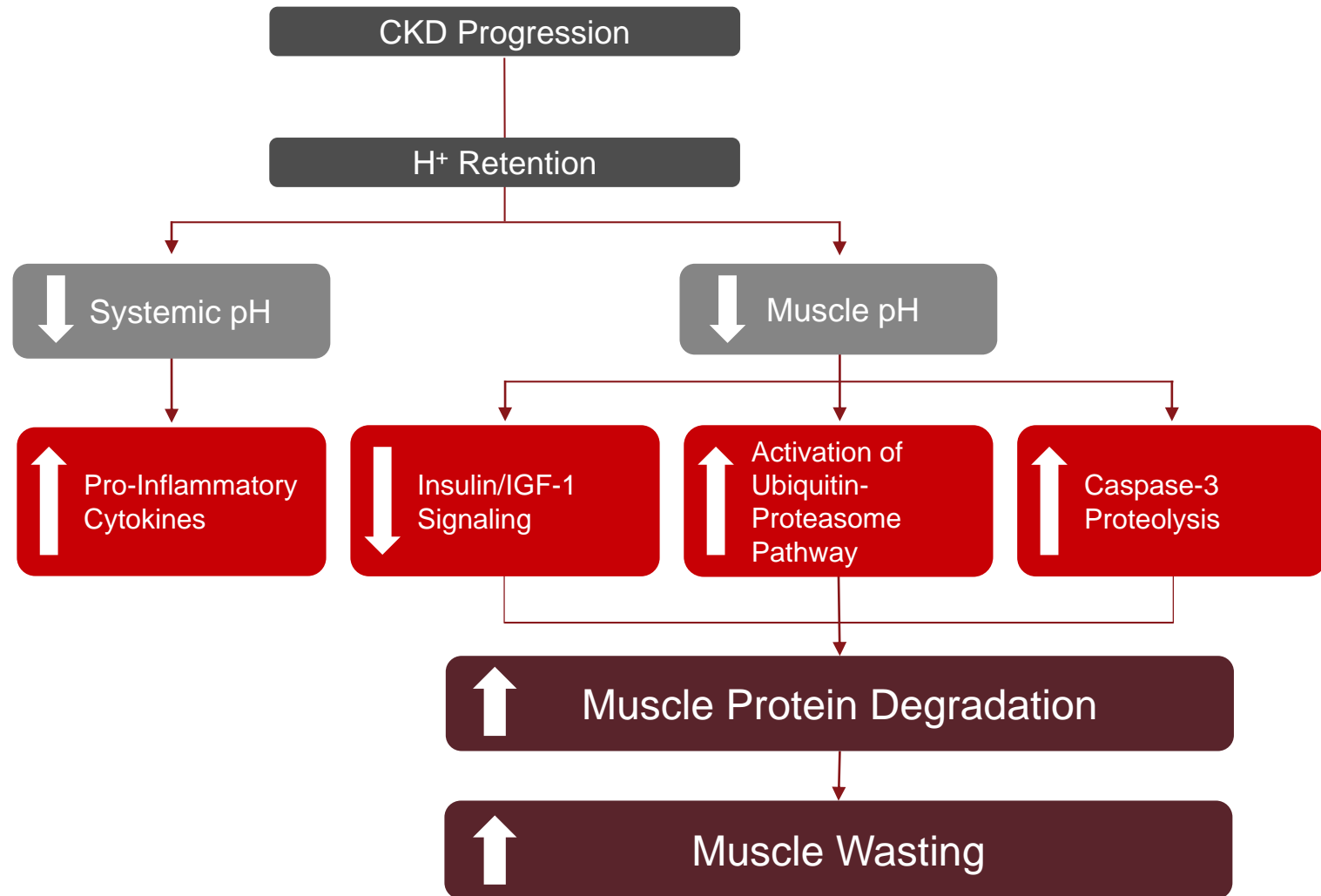


Body Adapts Prior to
Decrease from
Normal Serum
Bicarbonate Range

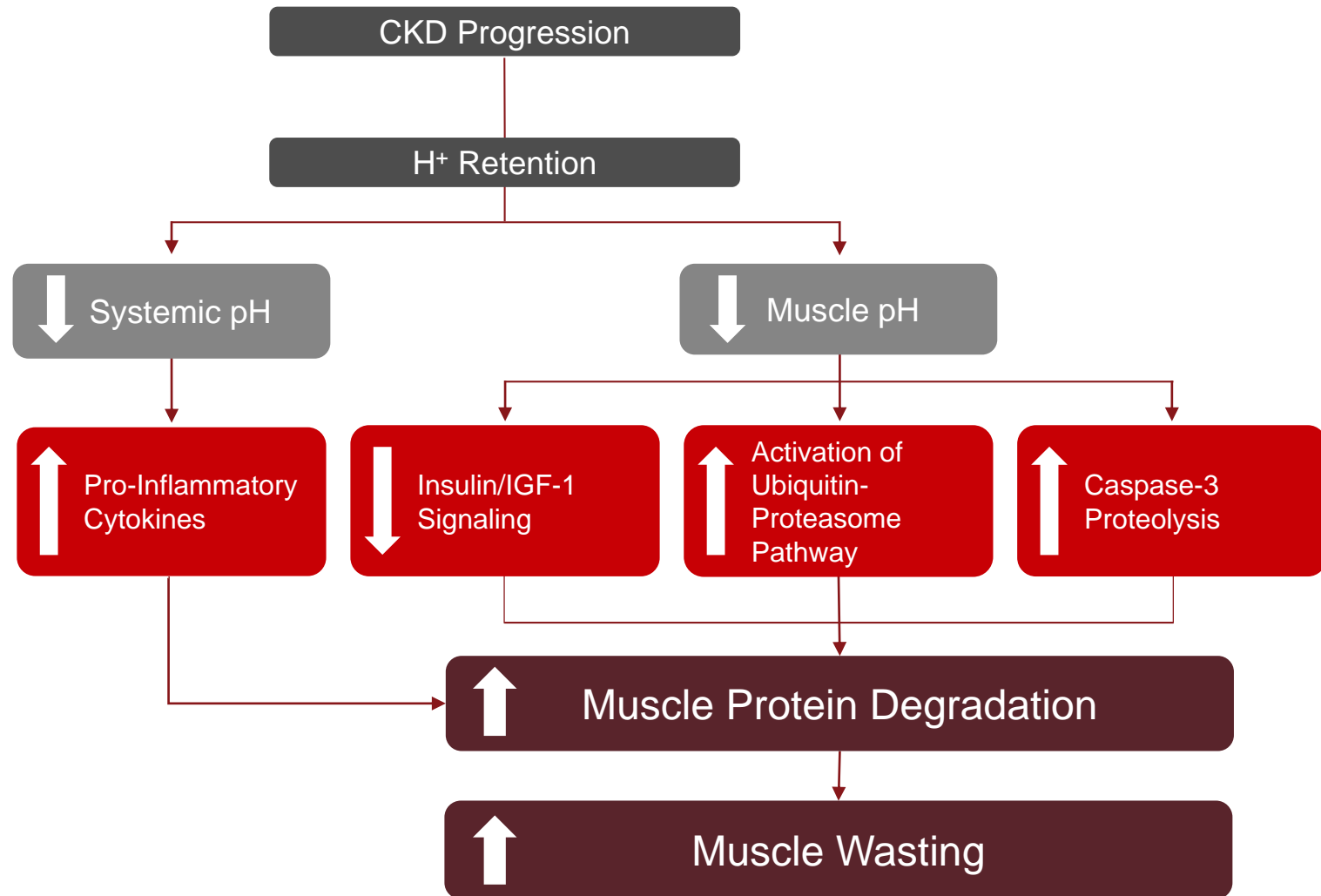
Small Increases in Muscle Degradation Will Cause a Loss of Muscle Mass



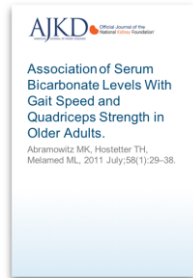
Putative Mechanisms that Contribute to Muscle Wasting in Patients with CKD and Metabolic Acidosis



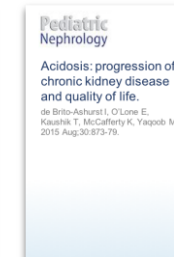
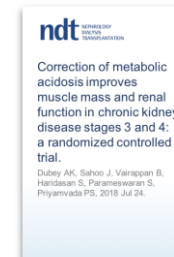
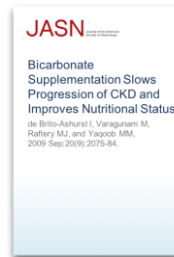
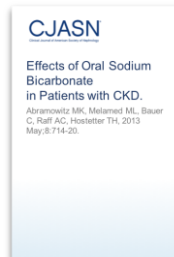
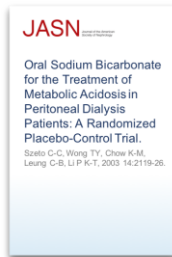
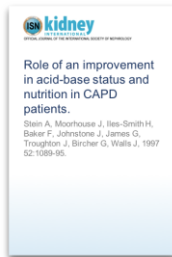
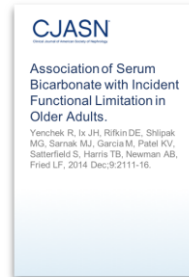
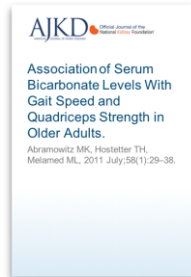
Putative Mechanisms that Contribute to Muscle Wasting in Patients with CKD and Metabolic Acidosis



Studies Show Association Between Metabolic Acidosis and Impaired Physical Function



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Acid Buffering by Bone with Increased Acid Retention

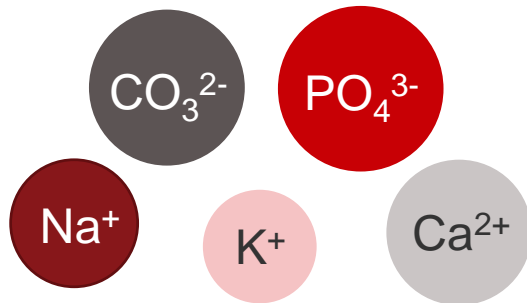
Short-Term Acute Response

Long-Term Chronic Response

Physicochemical Dissolution



Releases



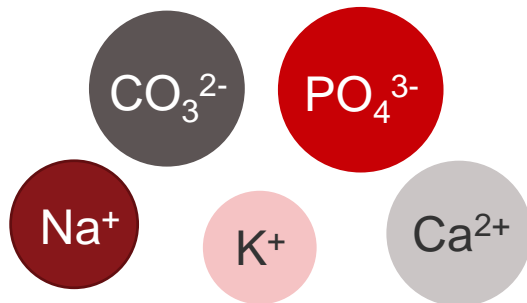
Acid Buffering by Bone with Increased Acid Retention

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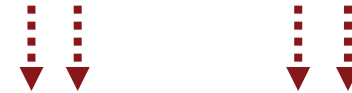


Releases



Long-Term Chronic Response

Cell Mediated Resorption



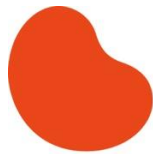
Decreased Osteoblastic Bone Formation

Increased Osteoclastic Bone Resorption



Decreased Bone Quality and Mass

CKD Practice Guidelines Suggest Treatment if Serum Bicarbonate Levels are Below 22 mEq/L



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Kidney Disease
Outcomes Quality Initiative



The End