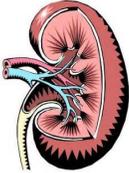


Nutrition and PKD: Why diet matters and what parents can do to help their kids



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Disclosures/Conflicts of Interest

- No disclosures or conflicts of interest to report



GKC

Objectives

In this session we will discuss:

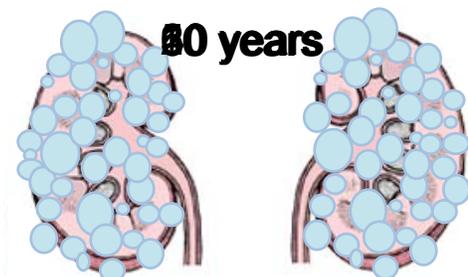
- The link between diet and PKD progression
- Research at KUMC developing a diet for PKD
- Practical tips that parents can use to improve their child's diet



Polycystic Kidney Disease

- 600,000 people in the United States and 12.5 million people worldwide are affected by Polycystic Kidney Disease (PKD)
 - Autosomal Dominant Polycystic Kidney Disease (ADPKD)
 - Autosomal Recessive Polycystic Kidney Disease (ARPKD)

- Cysts growth



- Kidney failure
 - Age 60 = 50% will have kidney failure
 - Age 70 = 60% will have kidney failure



How do we target cyst growth?

What makes **cysts grow faster**?

- Eating a **high amount** of:
 - Dietary Acids
 - Protein
 - Sodium
- OR
- Drinking a **low amount** of:
 - Fluid

Dietary Factors that ACCELERATE PKD progression

↑
Dietary Acids

↑
Protein

↑
Sodium

↓
Fluids



Diet: Mechanisms of Kidney Damage

Dietary Acid Load Decreases

↓ Protein

↑ Fruits and Vegetables

Slower

↓ Salt

↑ Fluid

Solute Load Decreases

H⁺ ions



Disease Progression



Vasopressin/ADH

cAMP

Dietary Acid Load Increases

↑ Protein

↓ Fruits and Vegetables

Faster

↑ Salt

↓ Fluid

Solute Load Increases



What should I do for my kids?



What can I do to feed my kids the right foods?

<p>In utero</p> <ul style="list-style-type: none">• No data available	<p>Birth – 11 months</p> <ul style="list-style-type: none">• Possible use of specialized formulas in the future• Baby foods• No studies done to date
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What can I do to feed my kids the right foods?

1 - 3 years old

- Critical time to offer variety of foods
 - Exposure is key
- Offer fruits and vegetables at every meal
- Make sure they drink fluid throughout the day
- Cook foods at home
 - Buy less processed foods
- Limit meat to meals

4 - 5 years old

- School age children
 - Peer influence
- School lunch
 - Send healthy meals from home
 - If eating in cafeteria, help them select the best meals prior to school day
 - Special diet



What can I do to feed my kids the right foods?

6 – 12 years old

- Sports
 - Water vs sports drinks
 - Make sure they get plenty of fluid
 - Have a bottle in class
- Fast food
 - Request fresh, unsalted fries
 - Look up nutrition facts from favorite restaurants
- School lunch
- Involve kids in preparation of dinner

13 - 18 years old

- Shift of responsibilities
- High School
 - School lunch
 - Sports coaches
- Skipping breakfast
 - Opt for smoothies, fruit
- Fast food



What can I do to feed my kids the right foods?

18 + years old

- College years
 - Limited access to kitchen/inability to cook
 - Campus meals/food pass
 - Energy drinks/alcohol



How do I monitor if I'm following the diet?

- No home methods established at this time
- Clinic appointments
 - Urine collection
 - Urine osm/urine specific gravity
 - Urinary sodium
 - Net acid excretion
 - Diet records
 - Patient centered website
 - Track diet



Summary

- Drink fluid throughout the day
- Eat fruits and vegetables with every meal/snack
- Less processed/fast foods and more fresh foods
- Limit meat to meals and watch portion sizes



DISCUSSION

