

# ANNA North Carolina Meeting 2022

## Nutrition Across the Life Span with Chronic Kidney Disease

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May 19, 2022



# Disclosures

No financial disclosures but...

I am not a pediatric dietitian

I am not genetic specialist

# Objectives

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- Awareness of appropriate foods for each stage for chronic kidney disease across the lifespan
- Life style changes that may improve kidney function
- Briefly review the 2021 KDIGO/KDOQI nutrition guidelines



<https://www.travlinmad.com/blog/traditional-food-around-the-world>

# Basic Nutrition Goals Across the Life Span with Kidney Issues

# What kidneys do

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- Maintenance Body Fluids
- Excretion of waste products of metabolism
- Regulation of blood pressure
- Makes hormones



# Conception/Fetal Development

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Supplementation

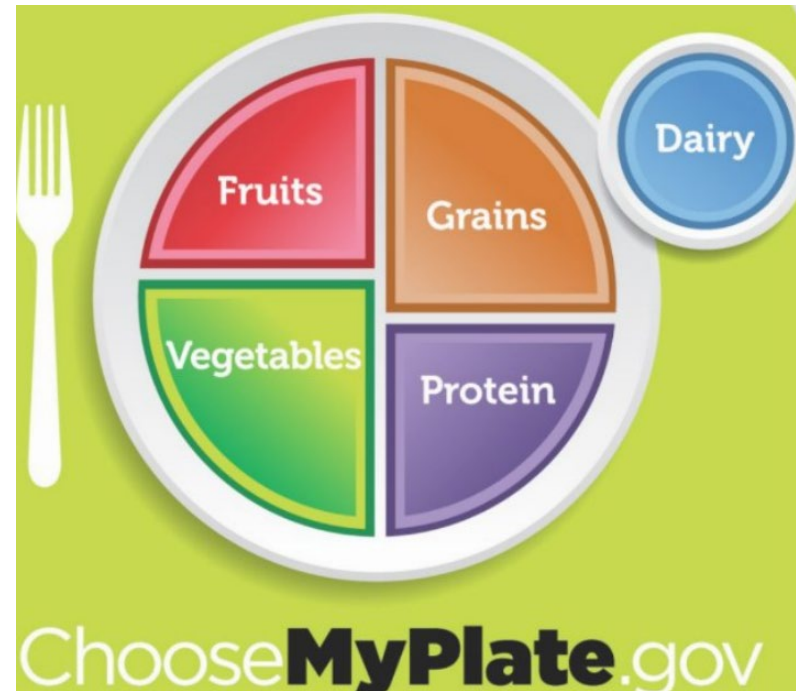
Folic Acid

Well balance diet

Blood sugar goals

Inborn errors

CAKUT



# Birth to Age 2

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- Nutrition assessment
- Nutrition for adequate growth and development
- Evaluation for weight, height, and BMI using WHO growth charts; head circumferences; mid arm circumference
- Renal evaluation
- Formula/Breast feeding
- Concern for malnutrition
- Milestones for age
  - Sucking
  - Head control for introduction of solids
  - Rolling
  - Sitting
  - Balance
  - Crawling
  - Standing
  - Walking





# Age 2 to Age 12

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## Nutrition Assessment

### Growth

CDC growth charts; head circumference up to age 3

Growth hormones

### Nutritional goals

### Normal diet

### Low Sodium Medical Nutrition Therapy

High blood pressure

# Age 13 to 18

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Nutrition Assessment

Growth

- Growth hormones

- CDC growth charts

Nutritional goals

Peer pressure and eating with friends

Low Sodium Medical Nutrition Therapy

- High blood pressure



# Ages 19-60

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Goal is to slow the progression of kidney disease

Nutrition assessment

Causes of CKD

Hydration

Physical Activity

Special conditions

- Pregnancy

- Obesity

# Age > 60

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Nutrition assessment

Causes of CKD

Hydration

Physical Activity

# Renal Replacement Therapy

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Hemodialysis

Peritoneal Dialysis

Transplant

Palliative Care

# What to eat

# Plant Based Diet with Low Protein

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Less meat especially red meats

More vegetables

Phosphorus and Phytates

Some fruit

Whole grains

Unsalted Nuts

Legumes

Tea and coffee



# Lower Sodium Foods

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Nutrition Facts	
About 13 servings per container	
<b>Serving Size</b> 1/2 Cup Dry (40g)	
<b>Amount Per Serving</b>	
<b>Calories</b>	<b>150</b>
<small>% Daily Value*</small>	
<b>Total Fat</b> 3g	<b>4%</b>
Saturated Fat 0.5g	<b>3%</b>
Trans Fat 0g	
Polyunsaturated Fat 1g	
Monounsaturated Fat 1g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 0mg	<b>0%</b>
<b>Total Carbohydrate</b> 27g	<b>10%</b>
Dietary Fiber 4g	<b>13%</b>
Soluble Fiber 2g	
Total Sugars 1g	
Includes 0g Added Sugars	<b>0%</b>
<b>Protein</b> 5g	
Vitamin D 0mcg	0%
Calcium 20mg	0%
Iron 1.5mg	8%
Potassium 150mg	2%
Thiamin 0.2mg	15%
Phosphorus 130mg	10%
Magnesium 40mg	10%

\*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

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Nutrition Facts	
Serving Size 1 Packet (43g)	
Servings Per Container 10	
<b>Amount Per Serving</b>	
<b>Calories</b> 160	Calories from Fat 20
<b>% Daily Value*</b>	
<b>Total Fat</b> 2g	<b>3%</b>
Saturated Fat 0.5g	<b>3%</b>
Trans Fat 0g	
Polyunsaturated Fat 0.5g	
Monounsaturated Fat 1g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 260mg	<b>11%</b>
<b>Potassium</b> 115mg	<b>3%</b>
<b>Total Carbohydrate</b> 33g	<b>11%</b>
Dietary Fiber 3g	<b>11%</b>
Soluble Fiber 1g	
Sugars 12g	
<b>Protein</b> 4g	
<b>% DV</b>	
Vitamin A	0%
Vitamin C	0%
Calcium	0%
Iron	6%
Thiamin	10%
Phosphorus	10%
Magnesium	10%





































# Lower Potassium Vegetables



## Lower Potassium Vegetables

Less than 200mg per 1 cup leafy greens or 1/2 cup fresh, cooked, or canned vegetable (unless otherwise listed)



 Alfalfa sprouts	 Cauliflower	 Jicama/yambean	 Radish
 Asparagus	 Celery	 Kale	 Rhubarb
 Bamboo shoots (canned)	 Corn (1/2 cup)	 Lettuce: all types	 Spinach (raw)
 Bean sprouts	 Cucumber	 Mushrooms (raw or canned)	 Spaghetti squash
 Beets (canned)	 Eggplant	 Okra	 Cherry tomatoes
 Broccoli	 Garbanzo beans/chickpeas (canned)	 Onion or leek	 Turnip
 Cabbage	 Green or wax beans	 Peas: green, sugar snap, or snow peas	 Yellow summer squash
 Carrots	 Greens: collard, mustard, or turnip	 Peppers: green, red, or yellow	 Water chestnuts (canned)

Foods listed are based on USDA Nutrient Database averages.

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# Lower Potassium Fruit



## Lower Potassium Fruits

Less than 200mg per 1/2 cup fresh, canned, or 1 small fruit  
(unless otherwise listed)



-  Apple
-  Applesauce
-  Apricot, fresh
-  Berries
-  Cherries
-  Clementine
-  Dried apples, blueberries, cherries, or cranberries (1/4 cup)
-  Fruit cup: any fruit, fruit cocktail

-  Grapes
-  Lemon or lime
-  Pear
-  Pineapple
-  Plum
-  Tangerine or mandarin orange
-  Watermelon (1 cup)

### Juices (1/2 cup)

-  Apple juice
-  Cranberry juice
-  Grape juice
-  Lemon or lime juice
-  Pineapple juice
-  Nectars: apricot, mango, papaya, peach, or pear

*Foods listed are based on USDA Nutrient Database averages.*

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# Case studies

# Case Report One

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64 YO Male

BMI 25.09

Cret 1.8

eGFR 56

Kidney Stones, HTN, CKD stage III, hyperlipidemia

Presented 4/7/2022

Retired with limited physical activity

After nutrition counseling

BMI 23 (weight maintenance)

Cret 1.8

eGFR 59

Presented 5/18/2022

Feels great

Portion control, limiting sodium, less processed foods

Wife lost weight as well

# Case Study Two

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80 YO Female

BMI 22.83

Cret 1.24

eGFR 30

IBS, HTN, CKD stage III, hyperlipidemia

Presented 4/22/2021

Retired with no exercise regimen

After nutrition counseling

BMI 22.6 (weight maintenance)

Cret 1

eGFR 59

Presented 5/17/2022

# Questions

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# Thank you

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