

Optimizing the Renal Diet with Fruits and Vegetables

This is a recorded webinar

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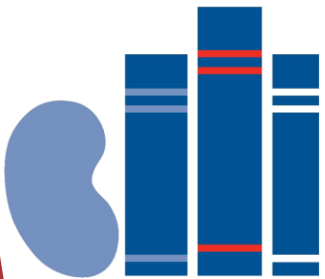
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Welcome

- Thank you for joining the DPC Education Center webinar to learn more about the importance of adding enough fruits and vegetables to the kidney diet.
- This program is for your information, and you will need to talk to your health care team about your specific situation.
- Please complete the brief feedback form at the end of the program which also provides a way to suggest additional topics for the future.



Presenter



- ▶ María Eugenia Rodríguez, MS, RD, CSR
- ▶ Live in Puerto Rico
- ▶ Board Certified Specialist in Renal Nutrition since 2014
- ▶ Have worked with
 - ▶ dialysis patients since 2009
 - ▶ early CKD in private practice since 2013
- ▶ Founder of ME Nutrition Services, PSC

<https://nutricionrenalpr.com>

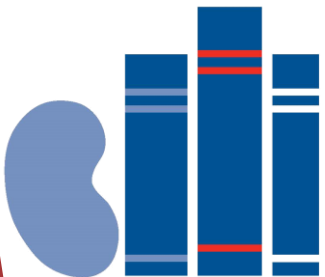


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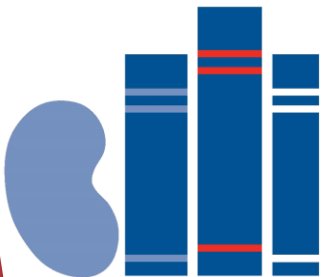
Objetivos

- ▶ Review the importance of eating enough fruits and vegetables as part of a kidney-friendly diet
- ▶ Explore fresh, canned and frozen fruit and vegetables alternatives
- ▶ Discuss strategies to incorporate more fruit and vegetables into your diet



Benefits of fruits and vegetables in the general population

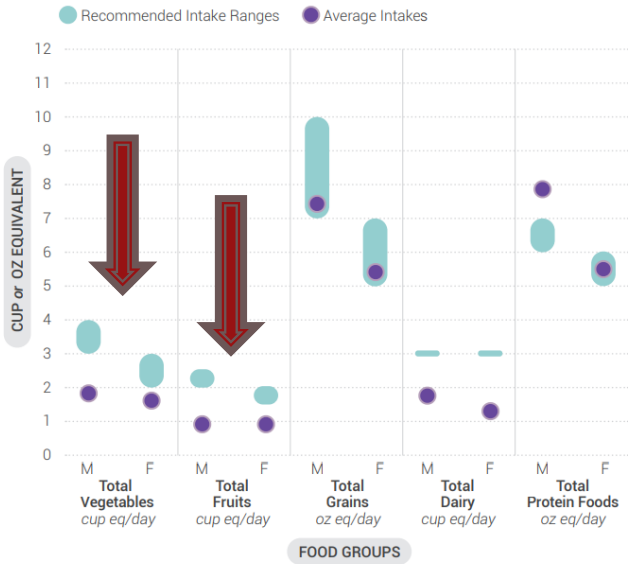
- ▶ Vitamin C and folic acid, potassium, magnesium, vitamin A and vitamin K support the immune system
- ▶ Antioxidants such as flavonoids and carotenoids to combat oxidative stress
- ▶ Source of Fiber
- ▶ Source of hydration
- ▶ Prevention of cardiovascular disease, some cancers, type 2 diabetes, and obesity
- ▶ DASH diet: 8-10 servings daily of fruits and vegetables (2,000 calories)



Fruits and Vegetables - General Population

Current Intakes: Ages 31 Through 59

Average Daily Food Group Intakes Compared to Recommended Intake Ranges

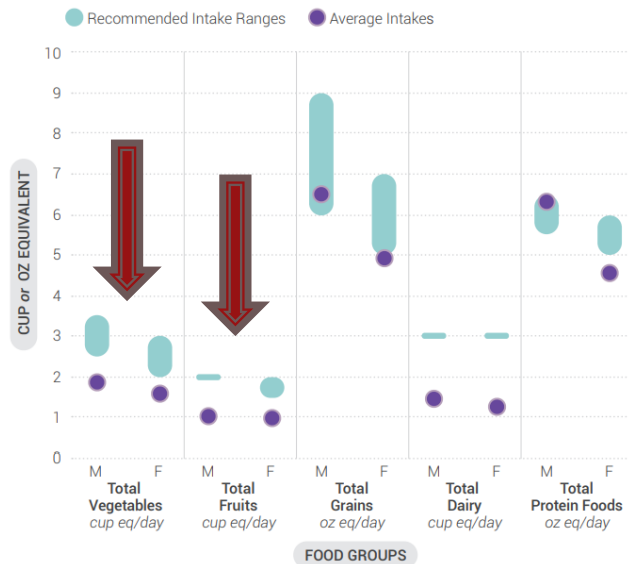


Healthy Eating Index Score (on a scale of 0-100)

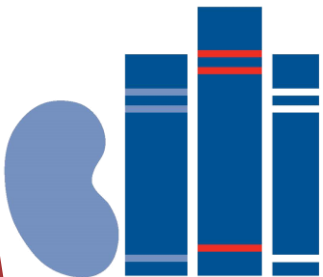


Current Intakes: Ages 60 and Older

Average Daily Food Group Intakes Compared to Recommended Intake Ranges



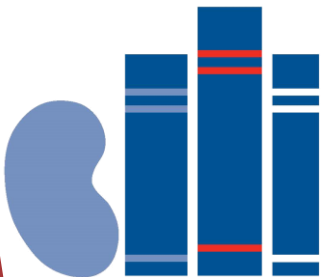
Healthy Eating Index Score (on a scale of 0-100)



Importance of fruits and vegetables

3.3.2 In adults with stage 1-4 chronic kidney disease (CKD), we suggest that prescribing increased fruit and vegetable consumption may decrease body weight, blood pressure, and net acid production (NEAP) (2C).

6.1.1 In adults with stage 1-4 chronic kidney disease (CKD), we suggest reducing net acid production (NEAP) through increased consumption of fruits and vegetables (2C) to decrease the rate of decline in residual kidney function.

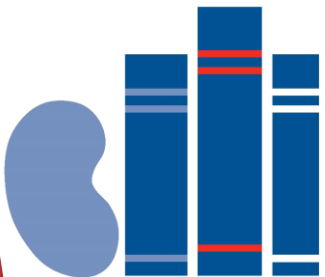


-KDOQI 2020

Importance of fruits and vegetables

Consumption of approximately 17 servings of fruits and vegetables per week (2-3 per day) was associated with a 20% reduction in the risk of all-cause mortality (5% absolute risk reduction) and a reduction in the risk of death from non-cardiovascular causes (3% absolute risk reduction).

n=8078 from 11 countries, mean age: 63 years, 32% diabetes, mean time in HD: 3.6 years, followed by 2.7 years





Plant-based foods

Absorption rate
50%–60%

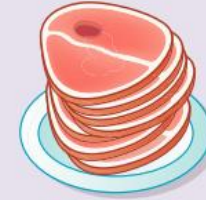
Plant-based foods may have low absorption rate, net alkalizing effect, and carbohydrate content encourages K^+ shifts into intracellular space, minimizing impacts on serum K^+



Animal-based foods

Absorption rate
70%–90%

Animal-based protein has higher absorption and net acid effect results in higher amounts of K^+ remaining in serum

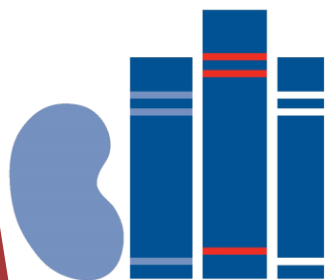


Processed foods

Absorption rate
90%

Potassium salts (often found in processed foods) absorption rate has been reported to be 90%

Figure 33 | Potassium absorption rates of plant-based, animal-based, and processed foods. Data from Picard K, Griffiths M, Mager DR, Richard C. Handouts for low-potassium diets disproportionately restrict fruits and vegetables. *J Ren Nutr.* 2021;31:210–214.⁵⁹²

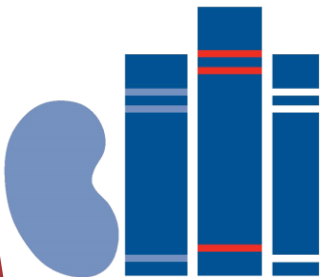


Potassium in fruits and vegetables

Fruit and vegetable alternatives



- ▶ Fresh
- ▶ Frozen
- ▶ Canned
- ▶ Dried fruits



Canned Fruits



Nutrition Facts	
About 3.5 servings per container	
Serving size 1/2 cup (128g)	
Amount per serving	
Calories	100
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 5mg	0%
Total Carbohydrate 25g	9%
Dietary Fiber 2g	7%
Total Sugars 21g	
Includes 14g Added Sugars	28%
Protein 0g	
Vit. D 0mcg 0% • Calcium 6mg 0%	
Iron 0mg 0% • Potas. 57mg 2%	
* The % Daily Value 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.	



Nutrition Facts		Amount/serving	% Daily Value*	Amount/serving	% Daily Value*
4 servings per container Serving size 1 cup (113g) Calories per serving 60	Total Fat 0g	0g	0%	Total Carbohydrate 17g	6%
	Saturated Fat 0g	0g	0%	Dietary Fiber 1g	4%
	Trans Fat 0g	0g		Total Sugars 13g	
	Cholesterol 0mg	0mg	0%	Includes 0g of Added Sugars	0%
Sodium 10mg	10mg	0%	Protein 0g		
Vitamin D 0mcg 0% • Calcium 8mg 0% • Iron 0mg % • Potassium 46mg 0%					

*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.



Canned vegetables

Nutrition Facts	Amount/serving	% Daily Value*	Amount/serving	% Daily Value*
Serving size 1 can (248g)	Total Fat 2g	3%	Total Carb. 25g	9%
	Saturated Fat 0g	0%	Dietary Fiber 4g	14%
	Trans Fat 0g		Total Sugars 13g	
	Cholesterol 0mg	0%	Incl. 0g Added Sugars	0%
	Sodium 640mg	28%	Protein 2g	
Calories per serving 130	Vitamin D 0mcg 0% • Calcium 27mg 2% • Iron 0.8mg 4% • Potassium 35mg 7%			

*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.

INGREDIENTS: CORN, WATER, SEA SALT.

Not a sodium-free food

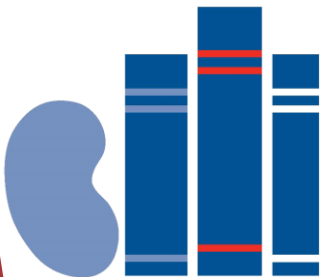
Nutrition Facts

About 14 servings per container
Serving size **1/2 cup (125g)**

	Undrained (1/2 cup)	Drained (about 1/3 cup)
Calories	60	50
	% DV*	% DV*
Total Fat	1g 1%	1g 1%
Saturated Fat	0g 0%	0g 0%
Trans Fat	0g	0g
Cholesterol	0mg 0%	0mg 0%
Sodium	10mg 0%	5mg 0%
Total Carb.	13g 5%	9g 3%
Dietary Fiber	2g 7%	2g 7%
Total Sugars	7g	2g
Incl. Added Sugars	0g 0%	0g 0%
Protein	1g	1g
Vitamin D	0mcg 0%	0mcg 0%
Calcium	10mg 0%	7mg 0%
Iron	0.4mg 2%	0.3mg 2%
Potassium	181mg 4%	108mg 2%

*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.

INGREDIENTS: CORN, WATER.





1 medium: 174 mg potassium, 2.3 g fiber
8 oz juice: 496 mg potassium, 0.5 g fiber



1 medium: 292 mg potassium, 1.5 g fiber
8 oz juice: 527 mg potassium, 1 g fiber

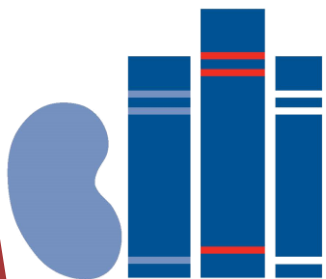


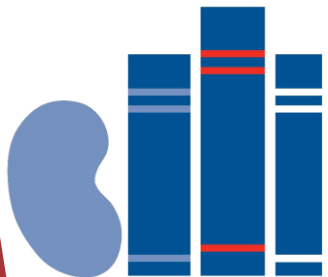


1/2 cup: 144 mg potassium,
0.7 g fiber



1/2 cup: 539 mg potassium, 3.3 g fiber
2 Tablespoons: 135 mg, 0.8 g fiber

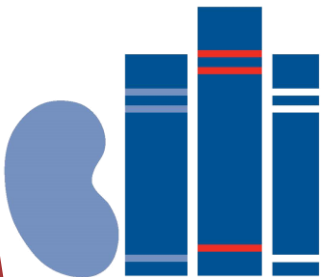




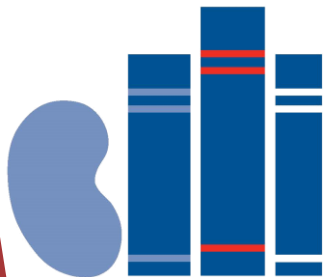
Strategies to increase consumption

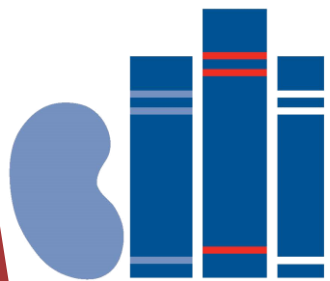
Strategies to increase consumption

- ▶ Strawberries
- ▶ Blueberries
- ▶ Pineapple
- ▶ Papaya
- ▶ Spinach
- ▶ Kale
- ▶ Cucumber
- ▶ Cauliflower



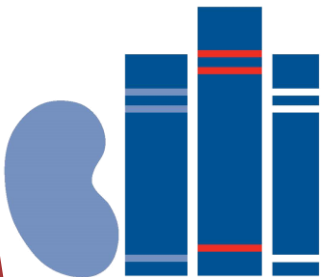
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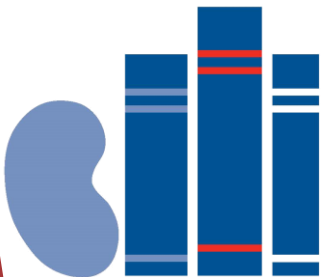
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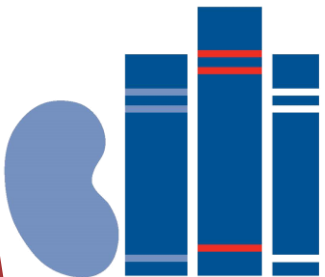
Pick a goal for this coming week

Specific - Measurable - Achievable - Relevant - Time-bound



Conclusion

- ▶ The renal diet should include enough fruits and vegetables every day
- ▶ Fruits and vegetables are a way to add color, variety, and nutrition to our day
- ▶ Find a renal dietitian if you need help



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