Nutrition in Renal Supportive Care

Bending the rules

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Renal Supportive Care

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Overview

- Nutrition in CKD and the role of the renal dietitian
- Nutritional counselling in RSC

Nutritional management in CKD

Nutritional management is complex and plays an important role in:

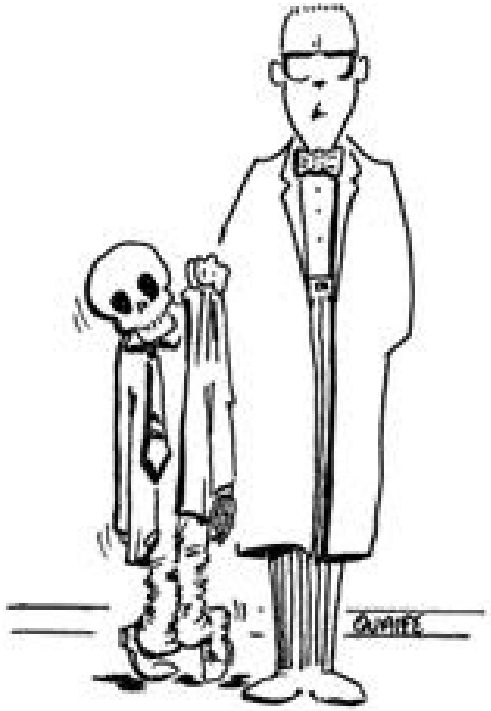
- Controlling complications associated with electrolytes and fluid
- Reducing and managing symptoms
- Improving quality of life
- Improving co-morbidity management

Traditional nutrition therapy

Prolonging life
Preparing for dialysis or transplantation
Secondary complication risk reduction

↓

Strict control of
- protein
- potassium
- phosphate
- sodium
- fluid
- macronutrients



Meet Mr. Bates, our perfect patient. He controls his fluid levels by not drinking and his potassium, cholesterol and phosphates by not eating.

Is this the right approach for our RSC population?

If not, how should we approach dietary management?

What and how do we prioritise?

Table 3 Summary of recommendations for the nutritional management of chronic kidney disease

CKD	Stage 3 (GFR 30–59)[4]	Stage 4 (GFR 15–29)[4]	Stage 5[4] Haemodialysis	Stage 5[4] Peritoneal dialysis
Point of referral	GFR <60 mL/min[2,4]	GFR <30 mL/min[3]	Upon commencement	Upon commencement
Time for consultation	45–60 mins[9]	45–60 mins[9]	45–60 mins[10]	45–60 mins[10]
Biochemistry and clinical	Alb[4], K[9], PO_4,[9] Cr,[9] bld glucose &/ HbA_{1c} (for persons with diabetes),[9] PTH,[8] BP,[9] lipids,[2] GFR,[9] Hb,[9]	Alb[3], K[9], PO_4,[9] Cr,[9] bld glucose &/ HbA_{1c} (for persons with diabetes),[9] PTH,[8] BP,[9] lipids,[2] GFR,[9] Hb,[9]	Pre dial: Alb[2,3] urea,[2,16] K[10], PO_4,[2] $CaxPO_4$,[2] lipids,[7] PTH,[8] Post dial: urea[10] HbA_{1c} (if diab)[10]	Alb[2,3] K[10], PO_4,[10] lipids,[7] PTH,[8] $CaxPO_4$,[2] urea &/or Cr,[2] HbA_{1c} (if diab),[10] PD prescription &/ fluid gains[10] BP[10]
Nutrition intervention				
Energy	Ideal for age, gender, BMI and phys activity level[2]	At least 146 kJ/kg IBW (BMI 18.5–25),[2] 125–146 kJ/kg IBW >60 years[3]	125–146 kJ/kg IBW (BMI 22–25)[2] Acute illness: >146 kJ/kg IBW if <60 years,[3] >125 kJ/kg IBW if >60 years[3]	146 kJ (35 kcal)/kg IBW (BMI 22–25)[2] inc glucose from dialysate[9] Acute illness: >146 kJ/kg IBW/day[3]
Protein	0.75–1.0 g/kg IBW/day[2]	0.75–1.0 g/kg IBW[2] with adequate kJ intake[2] >50% HBV[2]	1.2–1.4 g/kg IBW[2] >50% HBV[3] acute illness: >1.2 g/kg IBW[3]	Min 1.2 g/kg IBW,[2] >50% HBV[3] acute illness: >1.3 g/kgIBW,[3] peritonitis: 1.5 g/kg IBW[11]
Sodium	<100 mmol if hypertensive and CKD is progressive[2]	<100 mmol if hypertensive and CKD is progressive[2]	80–110 mmol/day[11]	Indiv treatment recommended, if restricted 80–110 mmol/day[11]
Potassium	Not usually restricted, If K^+ >6.0 limit intake[6] to 1 mmol/kg IBW/day	If K^+ >6.0 limit intake[2] to 1 mmol/kg IBW/day	1 mmol/kg IBW/day[10]	Indiv treatment recommended, if restricted 1 mmol/kg IBW/day[10]
Phosphate	If >1.49 mmol/L (or >target PTH) restrict to 800–1000 mg/day (adj for protein) &/or binders[8]	If >1.49 mmol/L (or >target PTH) restrict to 800–1000 mg/day (adj for protein) &/or binders[8]	If >1.78 mmol/L (or >target PTH) restrict to 800–1000 mg/day (adj protein) &/or binders[8]	If >1.78 mmol/L (or >target PTH) restrict to 800–1000 mg/day (adj for protein) &/or binders[8]
Fluid	Individualised based on CKD, oedema and hypertension[2]	Individualised based on CKD, oedema and hypertension[2]	500 mL + PDUO[11]	Indiv treatment recommended, if fluid overloaded or hypertensive: 800 mL + PDUO[11]
Nutrition counselling	Adequate protein and energy,[2,4] bld glucose control in DM,[4] fluid and Na control in HT,[4] lipid[2] &/ weight[4] control, meal plan,[9] self monitoring,[9] physical activity[17]	Protein and energy intake,[2,3] Na, K &/ fluid intake,[2] wt control[2,9], meal plan,[9] recipe modification, self monitoring,[9] physical activity[9]	Individual care plan,[3] adequate protein and energy intake,[2] fluid &/ electrolyte management,[10] self monitoring,[10] meal plan,[10] physical activity[10]	Individual care plan,[3] adequate protein intake,[2] appropriate energy intake,[2] self monitoring,[10] meal plan,[10] physical activity[10]
Review & frequency of follow up	Dry wt &/ BMI monthly,[2] 20–30 min[9] r/v every 6–12 months if no evidence of malnutrition, more frequently if malnourished[4]	Dry wt &/ BMI monthly,[2] 20–30 min[9] r/v every 1–3 months,[2] more frequently if inadequate intake, concomitant illness, GFR <15 or malnourished;[3] SGA every 6–12 months[2]	Dry wt, BMI &/ alb monthly,[2] 45–60 min[10] r/v every 3–6 months inc nPNA, Kt/V, diet assessment &/ SGA,[2] more frequently if clinically indicated[2]	Dry wt, BMI &/ alb monthly,[2] 45–60 min[10] r/v every 6 months inc nPNA, Kt/V, diet assessment &/ SGA,[2] more frequently if clinically indicated[2]

Table 3 Summary of recommendations for the nutritional management of chronic kidney disease

CKD | Stage 3 (GFR 30–59)[4] | Stage 4 (GFR 15–29)[4] | Stage 5[4] Haemodialysis | Stage 5[4] Peritoneal dialysis

10. Guidelines for nutritional treatment of CKD on conservative treatment.

10.1. Proteins and Energy intake

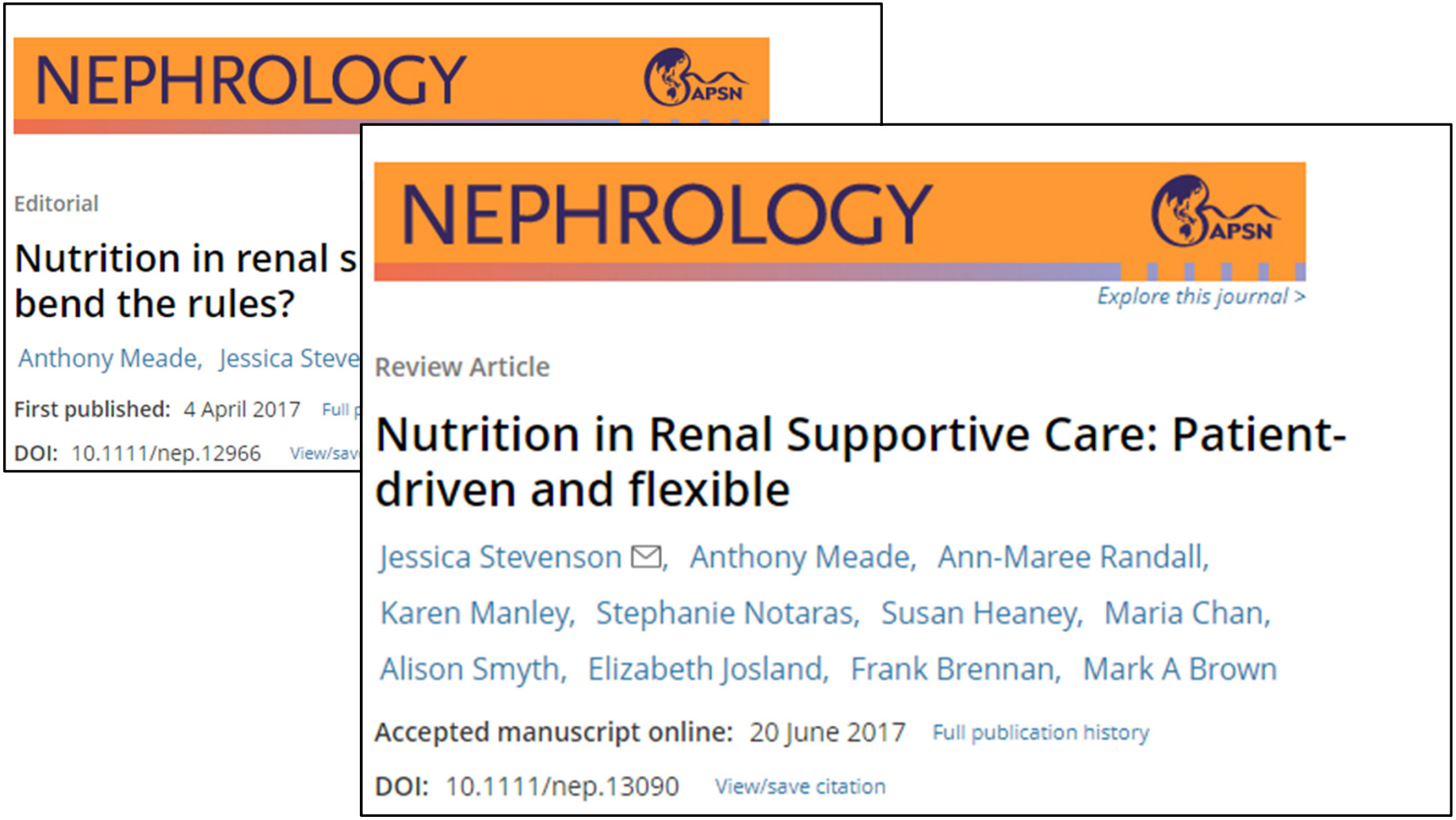
International Urology and Nephrology
May 2016, Volume 48, Issue 5, pp 725–729

Back to the future: restricted protein intake for conservative management of CKD, triple goals of renoprotection, uremia mitigation, and nutritional health

			value of dietary protein)
4	15-29 (with increasing serum creatinine)	Protein restriction 1. 0.6 g protein/kg body weight/day	1. Optional: 1 tablet/5 kg body weight/day (depending on the biological value of dietary protein)
		2. 0.3-0.4 g protein/kg body weight/day	2. 1 tablet/5 kg body weight/day
5	<10-15 (not on dialysis)	Protein restriction 1. 0.6 g protein/kg body weight/day	1. Optional: 1 tablet/5 kg body weight/day (depending on the biological value of dietary protein)
		2. 0.3-0.4 g protein/kg body weight/day	2. 1 tablet/5 kg body weight/day

eGFR, estimated glomerular filtration rate; RDA, recommended daily allowance.

Energy intake: up to 35 kcal/kg; in obese patients energy restriction to 25-30 kcal/kg iBW/day



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Editorial

Nutrition in renal s
bend the rules?

Anthony Meade, Jessica Steve

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Review Article

Nutrition in Renal Supportive Care: Patient-driven and flexible

Jessica Stevenson, Anthony Meade, Ann-Maree Randall, Karen Manley, Stephanie Notaras, Susan Heaney, Maria Chan, Alison Smyth, Elizabeth Josland, Frank Brennan, Mark A Brown

Accepted manuscript online: 20 June 2017 Full publication history

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Bending the rules in RSC

Aligning dietary plan with patient goals
Supporting patients (and families)
Enhancing nutritional quality of life
Minimising symptom burden
Maintaining nutritional status

Symptom control

Flexibility with diet restrictions

Staying clinically safe

Good nutritional status

1. Be clear about the rationale for dietary advice

Education re: dietary goals

Symptom management vs slowing disease progression
Acute safety vs long-term implications

Non-abandonment

Appraisal of health information

No matter how hard they try, they cannot understand most health information and get confused when there is conflicting information

Understanding health information well enough to know what to do

Has problems understanding any written health information or instructions about treatments or medications. Unable to read or write well enough to complete medical forms.

Rationale for dietary advice

Prioritising nutritional issues

Acute issues	Symptom burden	Malnutrition
Hyperkalemia Fluid overload • Can contribute to symptom burden	Early identification and management • iPOS-renal Nutrition-impact symptoms • Anorexia • Nausea, dry retching • Dry mouth, taste changes • Bowel changes	Early identification and management • 7 point Subjective Global Assessment

Case study 1

Scenario: an elderly lady enjoys having a hamburger and chips when out with her social club 3 times a week, but her daughter refuses to let her have any chips because she fears they may cause high potassium levels.

Practice Tips:

- Discuss serum potassium targets, sources of dietary potassium and the potential risks of hyperkalaemia
- Exclude non-dietary causes of hyperkalaemia. Discuss with the medical team
- Assess overall nutritional intake for potassium sources
- Discuss a balanced dietary approach and educate about portions and frequency of high potassium foods
- Identify strategies that enable the patient to incorporate desired foods (e.g. substitute foods or fluids in other parts of diet)
- Reassure family about monitoring and ongoing follow-up

2. Prioritise a whole diet philosophy

Recognition of social aspects of eating

Emphasising eating pattern, rather than individual foods or dietary components

3. Incorporate cultural values

Consider personal, religious and cultural values in context of their diet

Recognise our own food values (and biases)

Adapt dietary recommendations to respect culturally important dietary patterns or food systems

4. Develop patient-centred nutrition care plans

Flexibility with restrictions versus maintaining restrictions

Practical advice

Dietary goals responsive to changing patient needs or goals

Regular support and review of nutrition goals

5. Reduce diet-related anxiety

Simple, specific and supportive advice

e.g. targeted dietary education providing specific food swaps

Allowing patients to make informed decisions

Thank you

Anthony Meade
Ann-Maree Randall
Karen Manley
Steph Notaras
Susan Heaney
Maria Chan
Alison Smyth
Liz Josland
Frank Brennan
Mark Brown

Questions?


I'LL HAVE A TURKEY SANDWICH ON WHITE - CAN'T HAVE WHEAT - NO CHEESE, NO TOMATOES, VERY LITTLE MAYONNAISE, SALT-FREE IF POSSIBLE, A PIECE OF LETTUCE, AND TELL THE COOK TO TOWEL OFF ALL EXCESS FLUID, AND COULD YOU PLEASE SUBSTITUTE APPLE SLICES FOR THE FRIES, WHATEVER YOU DO - DON'T PUT A PICKLE ON THE PLATE! AND A GLASS OF CRUSHED ICE, PLEASE!
Menu
www.renalnetwork.org
Lori James-Hartwell