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Introduction to Resources and the *Pediatric Renal Team*

Nonnie Polderman, RD
Virtually from Vancouver, BC
March 5, 2021

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I have no disclosures.

Helping kids shine.

OBJECTIVES

- Discuss role of the RD as part of the interdisciplinary team
- Introduce professional resources for practitioners and educational resources for patients
- Review clinical tools to aid in nutrition assessment of pediatric renal patients

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FINDING YOUR WAY

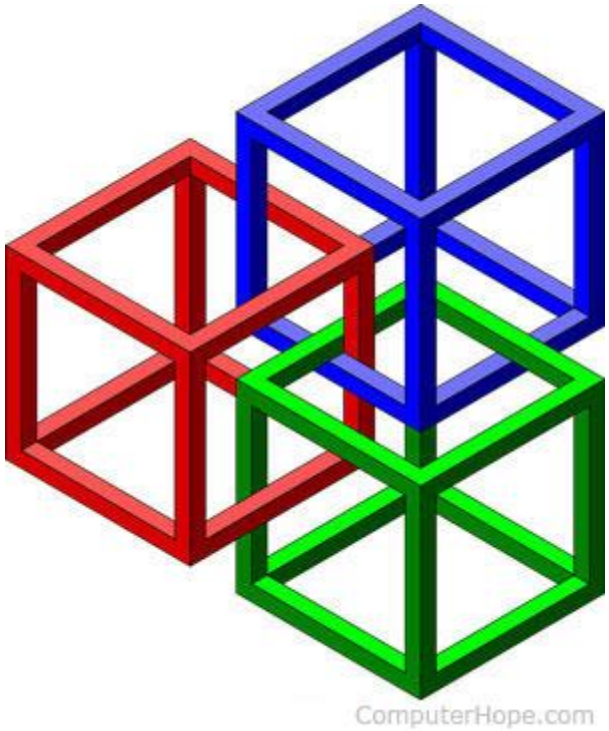
NAVIGATING PEDIATRIC NEPHROLOGY

Regulatory Guidelines

Professional Practise

Patient Resources

Knowledge/ Networking



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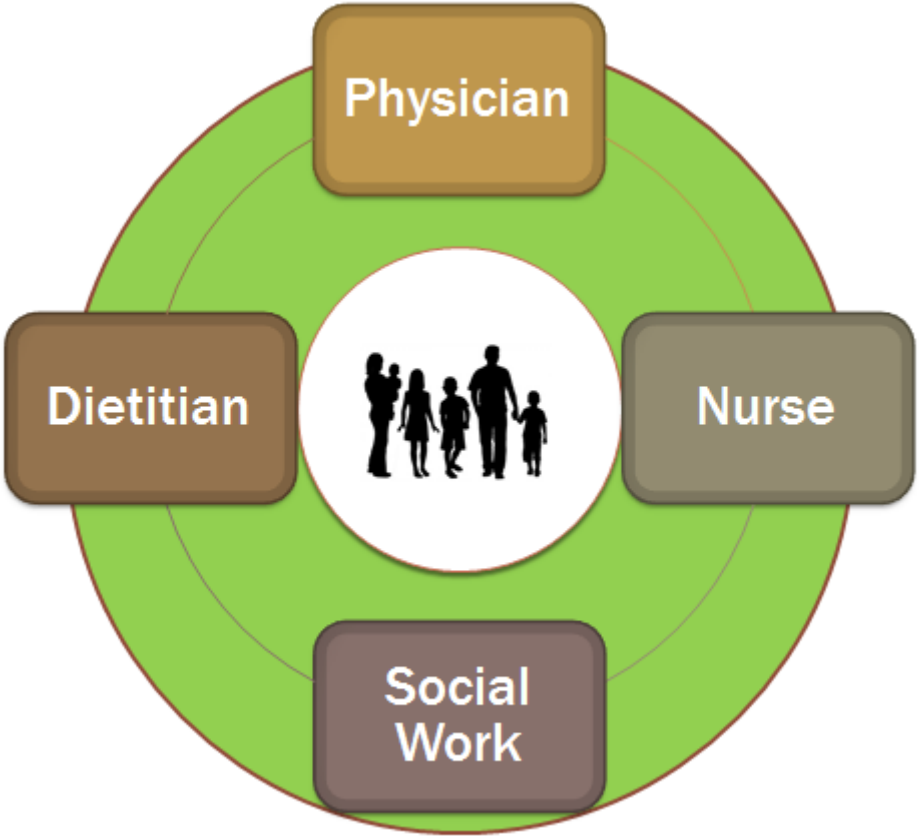
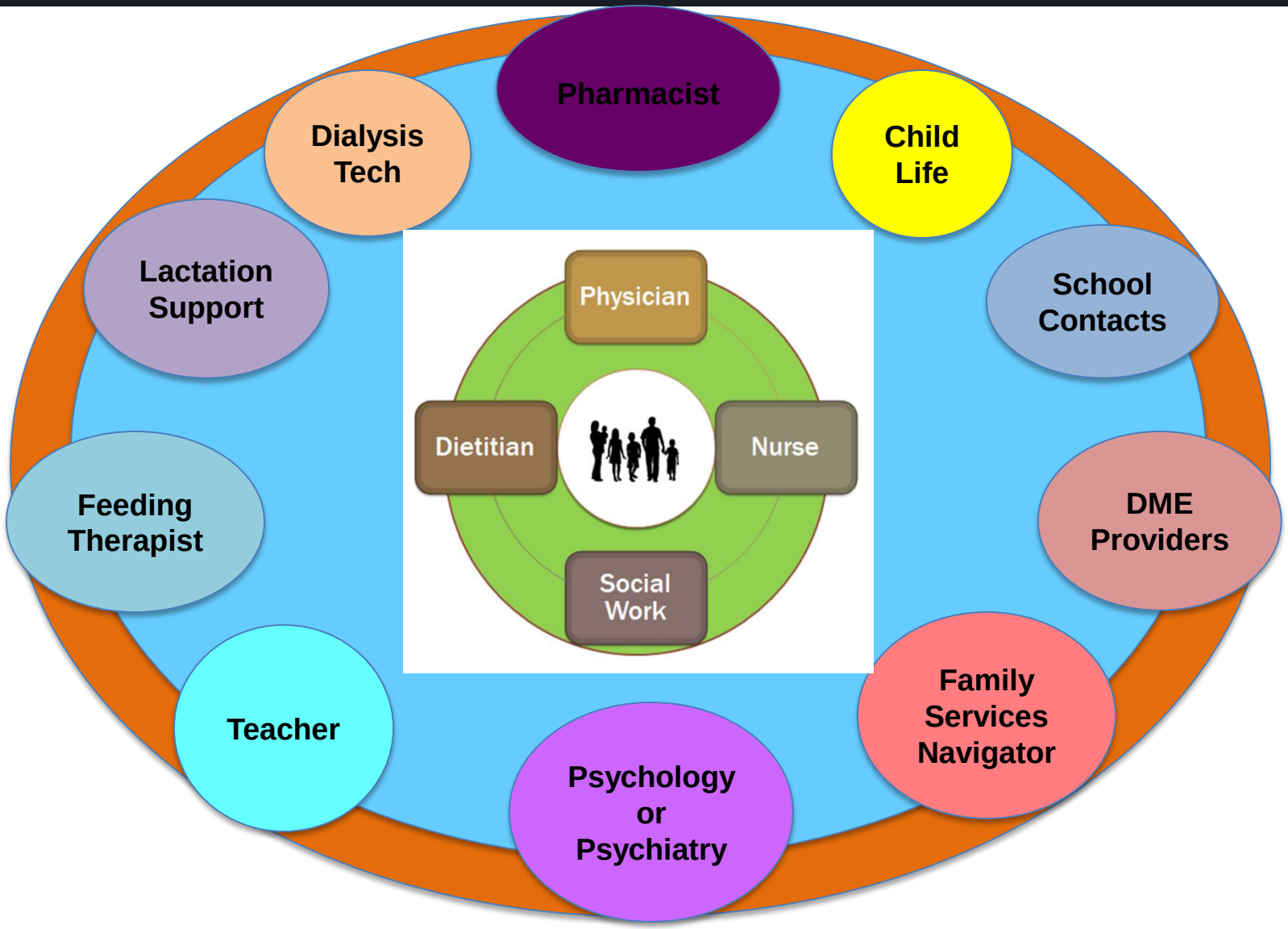
THE RENAL TEAM



MANDATED TEAM MEMBERS (4)

- Patient and family – most important team member
- Physician – attending, fellow → **ultimate responsibility for plan**
- Nurse – most frequent contact with patient
- Social Worker – quality of life & social needs of child
- Dietitian – nutrition expert & advocate

THE RENAL TEAM… EXTENDED



REGULATORY INFORMATION

Center for Medicare & Medicaid Services:

MEASURES ASSESSMENT TOOL (MAT)

Tag	Condition/Standard ➡	Measure ➡	Values ➡	Reference ➡	Source
484.40 Water and dialysate quality:					
V196 V178 V180	Water quality; test for total chlorine Water & dialysate quality/test for microbiological contamination	Max. total chlorine (includes chloramines) Action / Max. bacteria – product water / dialysate Action / Max. endotoxin – product water / dialysate	≤0.1 mg/L daily/shift 50 CFU/mL / <200 CFU/mL 1 EU/mL / <2 EU/mL (endotoxin units)	AAMI RD52	Records
484.50 Reuse of hemodialyzers and blood lines (only applies to facilities that reuse dialyzers &/or bloodlines)					
V336	Dialyzer effectiveness	Total cell volume (TCV) of (hollow fiber) dialyzers	Measure original volume/TCV Discard if after reuse <80% of original TCV	KDOQI HD Adequacy 2006 AAMI RD47	Records Interview
484.60 Patient assessment: The interdisciplinary team (IDT), patient/designee, RN, MSW, RD, physician must provide each patient with an individualized & comprehensive assessment of needs					
V502 V503 V504 V505 V506 V507 V508 V509 V510 V511 V512 V513 V514 V515	- Health status/comorbidities - Dialysis prescription - BP & fluid management - Lab profile - Immunization & meds history - Anemia (Hgb, Hct, iron stores, ESA need) - Renal bone disease - Nutritional status - Psychosocial needs - Dialysis access type & maintenance - Abilities, interests, preferences, goals, desired participation in care, preferred modality & setting, expectations for outcomes - Suitability for transplant referral - Family & other support systems - Current physical activity level & referral to vocational & physical rehabilitation	- Medical/nursing history, physical exam findings - Evaluate: HD every mo; PD first mo & q 4 mo - Interdialytic BP & wt gain, target wt, symptoms - Monitor labs monthly & as needed - Pneumococcal, hepatitis, influenza; med allergies - Volume, bleeding, infection; ESA hypo-response - Calcium, phosphorus, PTH & medications - Multiple elements listed - Multiple elements listed - Access efficacy, fistula candidacy - Reason why patient does not participate in care, reason why patient is not a home dialysis candidate - Reason why patient is not a transplant candidate - Composition, history, availability, level of support - Abilities & barriers to independent living; achieving physical activity, education & work goals	Refer to Plan of care & QAPI sections (below) for values	Conditions for Coverage KDOQI Guidelines (see POC)	Chart Interview
484.60 Plan of care The IDT must develop & implement a written, individualized comprehensive plan of care that specifies the services necessary to address the patient's needs as identified by the comprehensive assessment & changes in the patient's condition, & must include measurable & expected outcomes & estimated timetables to achieve outcomes. Outcome goals must be consistent with current professionally accepted clinical practice standards.					
V543	(1) Dose of dialysis/volume status Monitor each treatment	Management of volume status	Euvolemic & pre-BP <140/90; post-BP <130/80 (adult); lower of 90% of normal for age/ht/wt or 130/80 (pediatric)	KDOQI HD Adequacy 2006 KDOQI Cardiovascular 2005	Chart Interview
V544	(1) Dose of dialysis (HD adequacy) Monitor adequacy monthly	Adult HD >5 hours 3x/week, minimum spKt/V Adult HD 2x/week, RKF <2 mL/min HD 2, 4-6x/week, minimum stdKt/V	≥1.2 (or URR≥65); Min. 3 hours/tx if RKF <2ml/min Inadequate treatment frequency ≥2.0/week	NQF #0249 (adult) NQF #1423 (peds) KDOQI HD Adequacy 2006	Chart Interview
V544	(1) Dose of dialysis (PD adequacy – adult) Monitor 1st month & every 4 months	Minimum delivered Kt/V_{urea}	≥1.7/week	NQF #0318 KDOQI PD Adequacy 2006	Chart Interview
V544	(1) Dose of dialysis (PD adequacy – pediatric) Monitor 1st month & every 6 months	Minimum delivered Kt/V_{urea}	≥1.8/week	KDOQI PD Adequacy 2006	Chart Interview
V545	(2) Nutritional status - Monitor albumin & body wt monthly; monitor other parameters at V509 as needed	Albumin Body weight & other parameters listed at V509	≥4.0 g/dL BCG preferred; if BCP: lab normal % usual wt, % standard wt, BMI, est. % body fat	KDOQI Nutrition 2000 KDOQI CKD 2002	Chart Interview
V545	(2) Nutritional status (pediatric) monitor monthly	Length/ht-for-age % or SD, dry wt & wt-for-age % or SD, BMI-for-ht/age % or SD, head circ/age % (age <3), nPCR	nPCR normalized HD teen (nPCR and albumin are not predictive of wt loss/nutritional status in younger children)	KDOQI Pediatric Nutrition 2008	Chart Interview
V546	(3) Mineral metabolism & renal bone disease Monitor calcium & phosphorus monthly Monitor intact PTH every 3 months	Calcium corrected for albumin (BCG) Phosphorus Intact PTH (consider with other MBD labs, not in isolation)	Normal for lab; preferred upper level <10.2 mg/dL[1] All: 3.5-5.5 mg/dL[2] Under review	NQF #1454 KDIGO CKD-MBD 2009	Chart Interview
V547	(4) Anemia – Hgb non-ESA - monitor monthly	Hemoglobin (Adult & pediatric)	No upper level established[3] See Hgb on ESA (below) for management of anemia[3]	FDA 8/24/11 for more info re CKD 5D recommendation	Chart Interview
V547 V548	(4) Anemia – Hgb on ESA – monitor weekly until stable; then monitor monthly; evaluate other anemia causes; educate patients about risks/benefits	Hemoglobin (Adult & pediatric) Blood transfusion	Initiate ESAs <10 g/dL; interrupt or ↓ dose near or >11 g/dL[3] Give lowest dose of ESAs to avoid transfusion (especially in transplant candidates); consider patient preference	FDA 8/24/11 for more info re CKD 5D recommendation	Chart Interview
V549	(4) Anemia - Monitor iron stores routinely	Adult & pediatric: transferrin saturation Adult & pediatric: serum ferritin	<20% (HD, PD), or CHr >29 pg/cell HD: >200 ng/mL; PD: >100 ng/mL HD/PD: <500 ng/mL or evaluate if indicated	KDOQI Anemia 2006	Chart Interview

Sources: DFR=Dialysis Facility Reports; OM=CROWNWeb; Chart=Patient Chart; Records=Facility Records; Interview=Patient/Staff Interview; Abbreviations: BCG/BCP=bromcresol green/purple; BMI=Body mass index; CAHPS=Consumer Assessment of Healthcare Providers & Services; CFU=colony forming units; CHr=reticulocyte hemoglobin; CMS CPM=CMS Clinical Performance Measure; DOPPS=Dialysis Outcomes & Practice Patterns Study; ESA=erythropoiesis stimulating agent; KDIGO=Kidney Disease Improving Global Outcomes; KDOQI=Kidney Disease Outcomes Quality Initiative; nPCR=normalized protein catabolic rate; NQF=National Quality Forum; RKF=residual kidney function; SD=standard deviation; spKt/V=single pool Kt/V

Measures Assessment Tool:

What standard is measured?
How it is measured?
Specific goal of the measure
Source reference for that measure

Measures Assessment Tool- Dietitian

494.80 Patient Assessment	• V508 – Renal bone disease • V509 – Nutrition status
494.90 Plan of Care	• V545 – Nutrition status • V546 – Mineral & bone disease
494.110 Quality Assessment & Performance Improvement	• V630 – Nutrition status • V631 – Mineral & bone disease

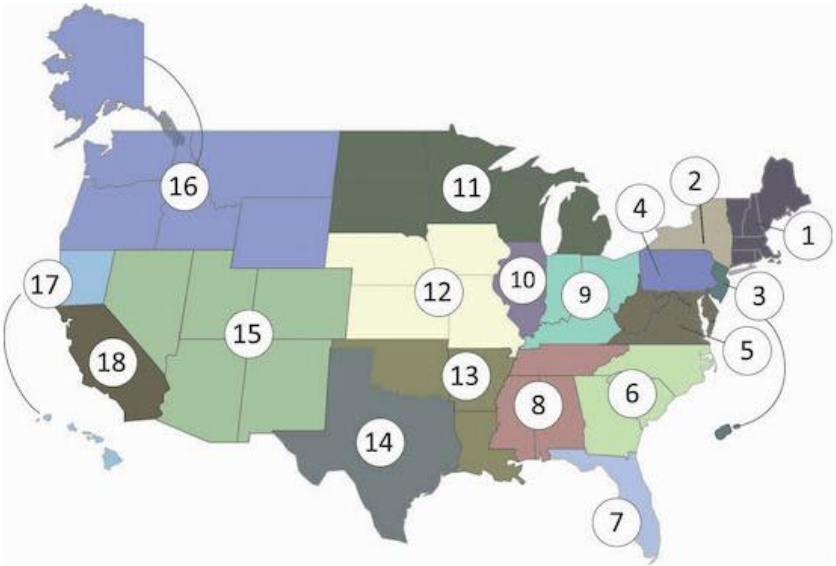
3 major phases of care

2 repeating items that are addressed

GUIDANCE FROM CMS – DIALYSIS

- V501 establishes an *interdisciplinary team* that includes a dietitian
- V509 requires the *evaluation of nutritional status* by a dietitian as part of the patient's comprehensive assessment
- V520 outlines the requirements for a patient's care plan and defines classification and follow-up for stable vs. unstable patients
- V545 states that a patient's albumin level and body weight must be measured monthly in an effort to achieve and sustain an effective nutritional status
- V546 (*pediatric*) states nPCR be monitored monthly in HD teens
- V630 requires an ongoing QA program that tracks indicators of nutrition status
- V689 and V690 state that the dietitian must be registered with CDR and have 1 year professional work experience in clinical nutrition
- V758 states that the dietitian must be available to meet patient needs

REGULATORY - USA

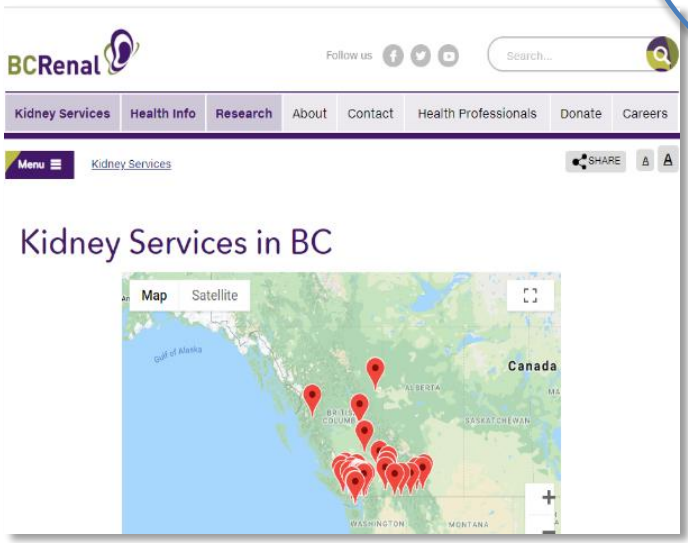


THE NATIONAL FORUM OF ESRD NETWORKS

The Forum of ESRD Networks is a not-for-profit organization that advocates on behalf of its membership and coordinates projects and activities of mutual interest to ESRD Networks. All 18 Networks are members of the Forum which facilitates the flow of information and advances a national quality agenda with CMS and other renal organizations.

http://esrdnetworks.org

REGULATORY - OTHER



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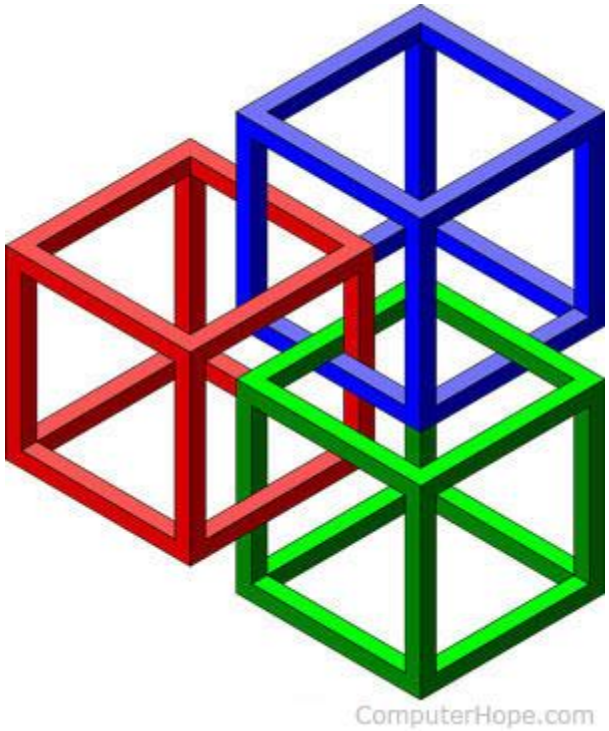

Standards of Practice & Professional Performance

Academy of Nutrition and Dietetics and National Kidney Foundation: Revised 2014 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Nephrology Nutrition

Pamela S. Kent, MS, RD, CSR, LD, Maureen P. McCarthy, MPH, RD, CSR, LD,† Jerrilynn D. Burrowes, PhD, RD, CDN,‡ Linda McCann, RD, CSR,§ Jessie Pavlinac, MS, RD, CSR, LD,† Catherine M. Goeddeke-Merickel, MS, RDN, LD,¶ Karen Wiesen, MS, RD, LD,** Sarah Kruger, MS, RD, CSR,†† Laura Byham-Gray, PhD, RD,‡‡ Rory C. Pace, MPH, RD, CSR,§§ Valarie Hannahs, MS, RD, LD,¶¶ and Debbie Benner, MA, RD, CSR****

Journal of Renal Nutrition, Vol 24, No 5 (September), 2014: pp 275-285

Standards of Practice & Professional Performance

Academy of Nutrition and Dietetics: Revised 2015 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Pediatric Nutrition

Nancy Nevin-Folino, MEd, RD, CSP, LD, FADA, FAND; Beth N. Ogata, MS, RD, CSP, CD; Pamela J. Charney, PhD, RD, CHTS-CP; Katrina Holt, MPH, MS, RD, FAND; Holly L. Brewer, MS, RDN, LD; Mary K. Sharrett, MS, RD, LD, CNSC; Liesje N. Carney, RD, CSP, LDN

JOURNAL OF THE ACADEMY OF NUTRITION AND DIETETICS March 2015 Volume 115 Number 3

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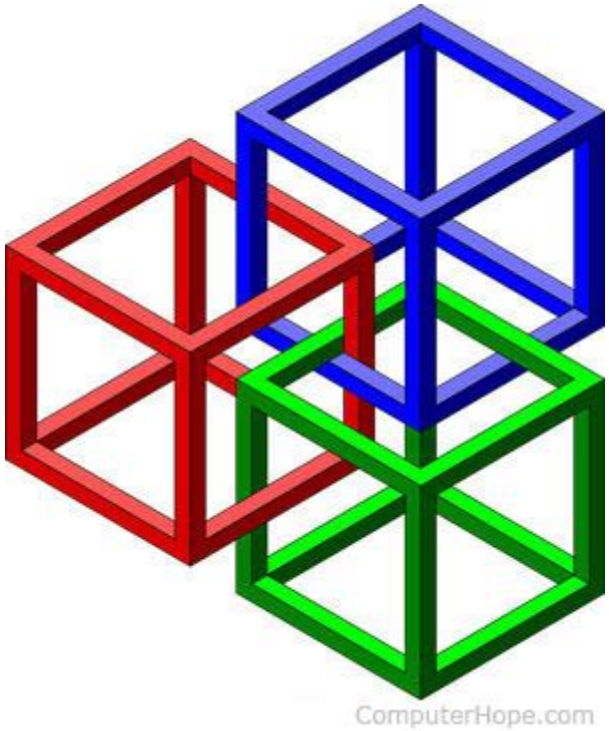
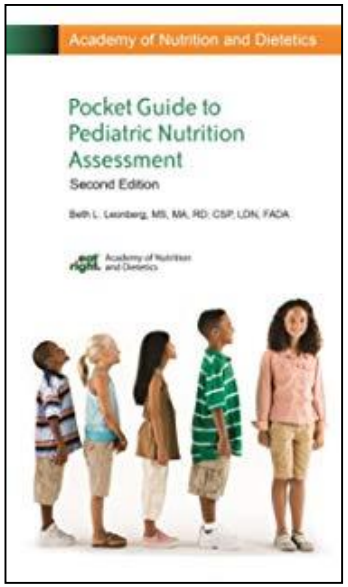
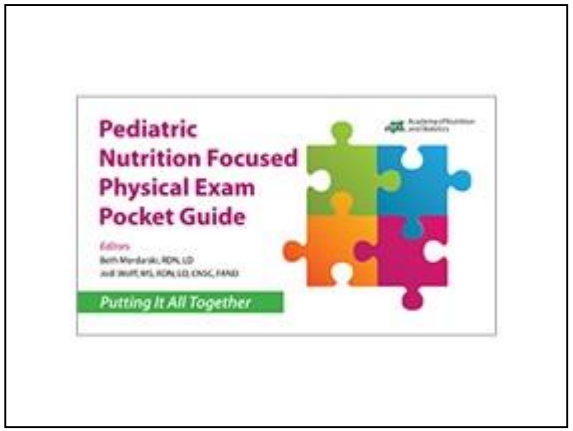
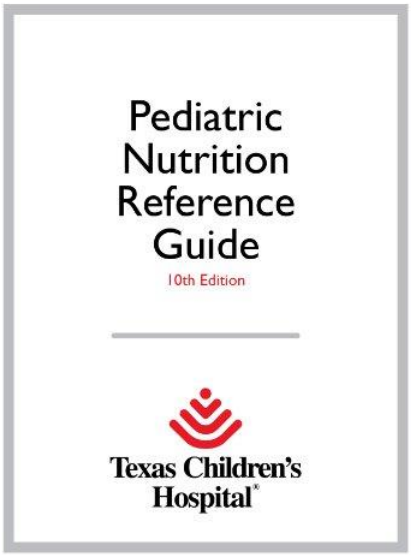


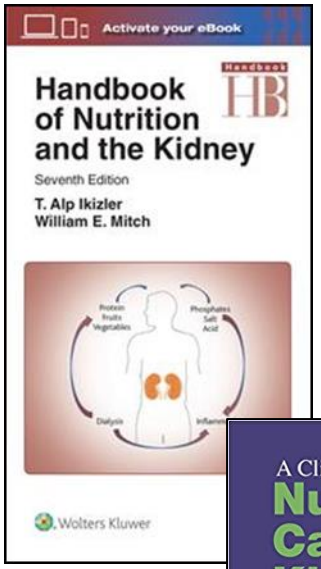
Handbooks and Pocket Guides- Pediatrics

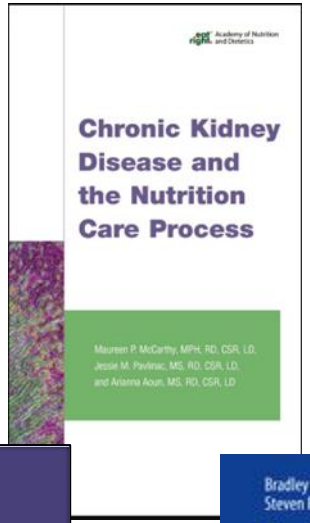


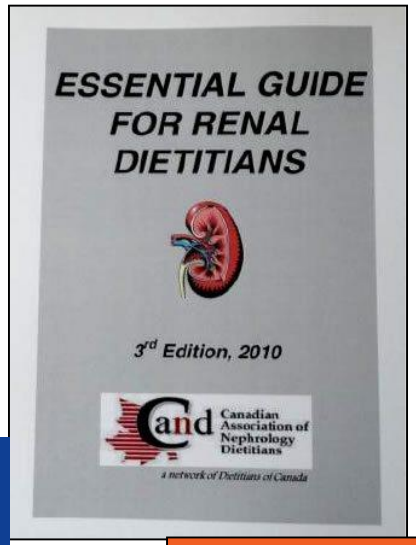


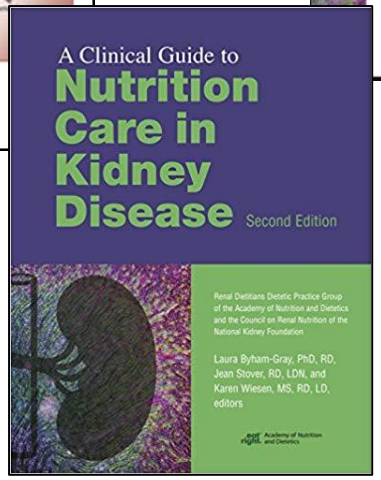


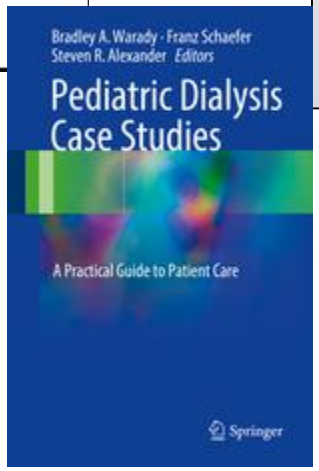
Textbooks, Handbooks, Guides: *Renal + Pediatrics*

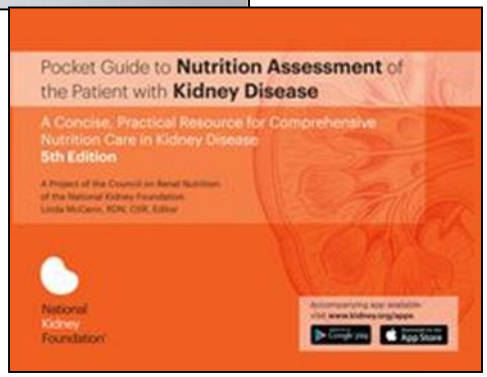




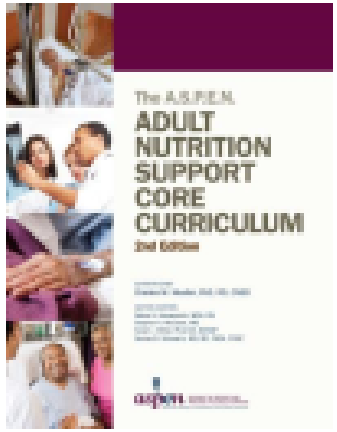


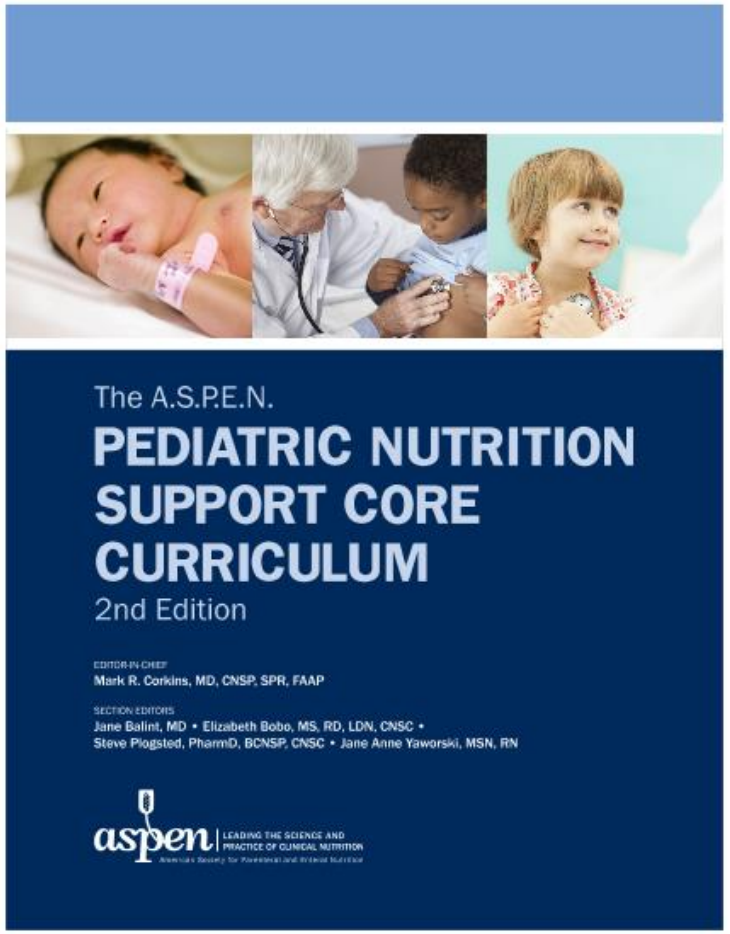




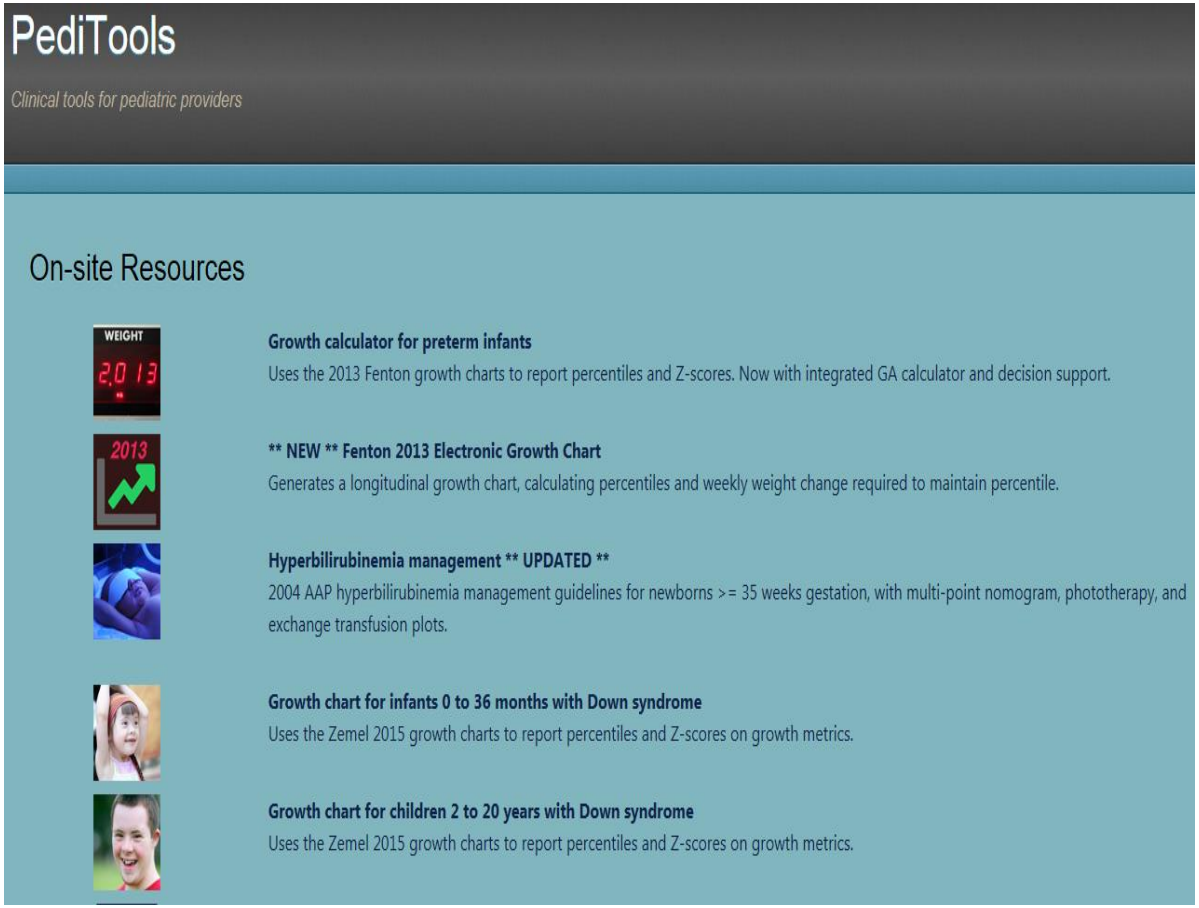


- **Renal Disease**
  Christina L. Nelms, MS, RD, CSP, LMNT
  Marisa Juarez, MPH, RD, LD
  Bradley A. Warady, MD





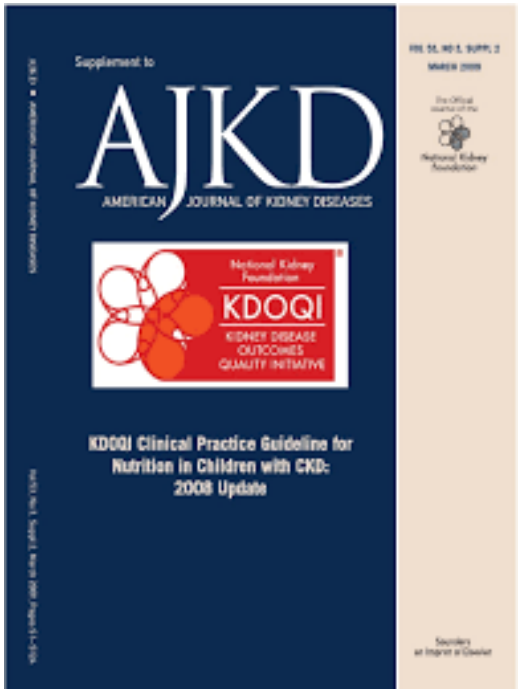
ASSESSMENT - Peditools



- Fenton – preterm infants
- Down Syndrome
- WHO
- CDC
- MUAC
- WHO arm circumference
- Skinfolds (triceps, subscapular)
- Parenteral nutrition

Kidney Disease Outcomes Quality Initiative (KDOQI)

KDOQI Clinical Practice Guidelines for Nutrition in Children with CKD: 2008 Update



RECOMMENDATIONS

NEW Clinical Practise Recommendations (CPRs)

Pediatric Renal Nutrition Taskforce (PRNT):

Dietitians and Nephrologists – Europe and North America

Since 2017….reviewing literature and publishing clinical practise recommendations.

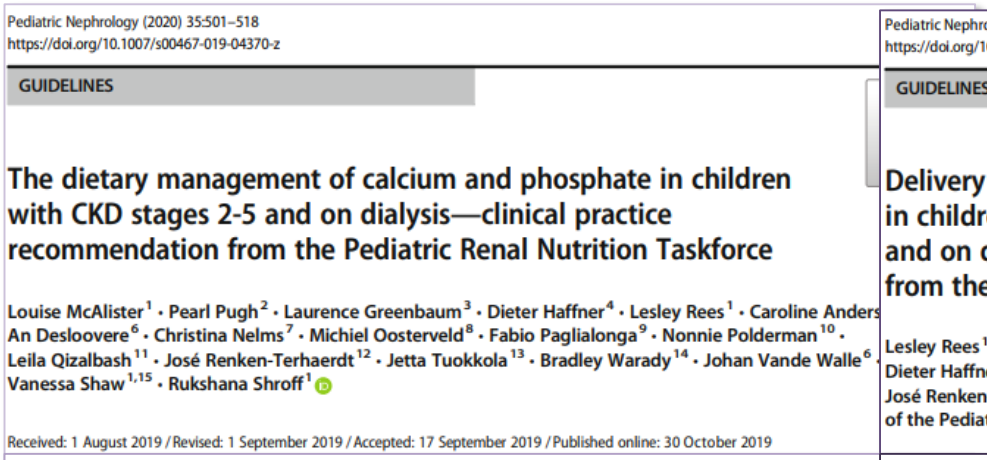
Published:

- Calcium and Phosphate
- Energy and Protein
- Assessment
- Delivery of Nutrition prescription
- Potassium management

Additional CPRs Coming soon!

- Obesity and Metabolic Syndrome
- Acute Kidney Injury
- Transplant

Clinical Practise Recommendations (CPRs)



Pediatric Nephrology (2020) 35:501–518
https://doi.org/10.1007/s00467-019-04370-z

GUIDELINES

The dietary management of calcium and phosphate in children with CKD stages 2-5 and on dialysis—clinical practice recommendation from the Pediatric Renal Nutrition Taskforce

Louise McAlister[1] · Pearl Pugh[2] · Laurence Greenbaum[3] · Dieter Haffner[4] · Lesley Rees[1] · Caroline Anders
An Desloovere[6] · Christina Nelms[7] · Michiel Oosterveld[8] · Fabio Paglialonga[9] · Nonnie Polderman[10] ·
Leila Qizalbash[11] · José Renken-Terhaerdt[12] · Jetta Tuokkola[13] · Bradley Warady[14] · Johan Vande Walle[6] ·
Vanessa Shaw[1,15] · Rukshana Shroff[1]

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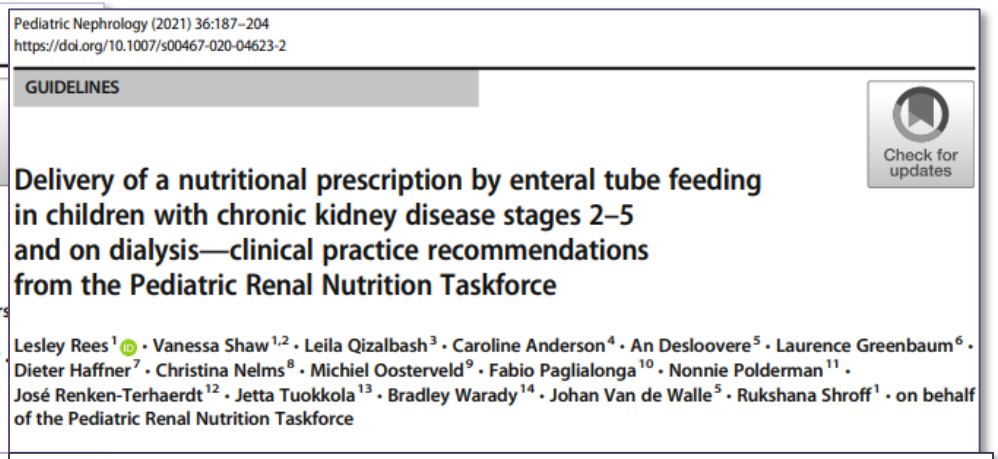


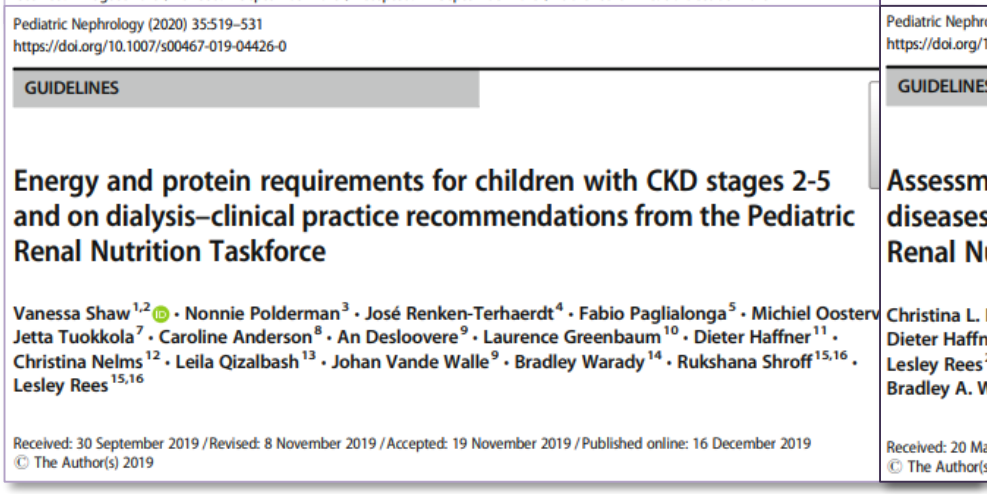
Pediatric Nephrology (2021) 36:187–204
https://doi.org/10.1007/s00467-020-04623-2

GUIDELINES

Check for updates

Delivery of a nutritional prescription by enteral tube feeding in children with chronic kidney disease stages 2–5 and on dialysis—clinical practice recommendations from the Pediatric Renal Nutrition Taskforce

Lesley Rees[1] · Vanessa Shaw[1,2] · Leila Qizalbash[3] · Caroline Anderson[4] · An Desloovere[5] · Laurence Greenbaum[6] ·
Dieter Haffner[7] · Christina Nelms[8] · Michiel Oosterveld[9] · Fabio Paglialonga[10] · Nonnie Polderman[11] ·
José Renken-Terhaerdt[12] · Jetta Tuokkola[13] · Bradley Warady[14] · Johan Van de Walle[5] · Rukshana Shroff[1] · on behalf of the Pediatric Renal Nutrition Taskforce



Pediatric Nephrology (2020) 35:519–531
https://doi.org/10.1007/s00467-019-04426-0

GUIDELINES

Energy and protein requirements for children with CKD stages 2-5 and on dialysis–clinical practice recommendations from the Pediatric Renal Nutrition Taskforce

Vanessa Shaw[1,2] · Nonnie Polderman[3] · José Renken-Terhaerdt[4] · Fabio Paglialonga[5] · Michiel Oosterv
Jetta Tuokkola[7] · Caroline Anderson[8] · An Desloovere[9] · Laurence Greenbaum[10] · Dieter Haffner[11] ·
Christina Nelms[12] · Leila Qizalbash[13] · Johan Vande Walle[9] · Bradley Warady[14] · Rukshana Shroff[15,16] ·
Lesley Rees[15,16]

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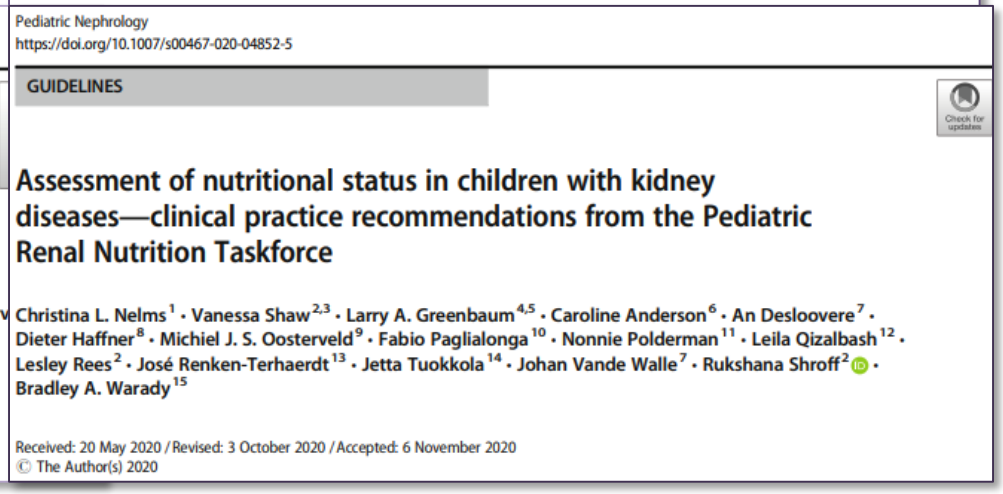

Pediatric Nephrology
https://doi.org/10.1007/s00467-020-04852-5

GUIDELINES

Check for updates

Assessment of nutritional status in children with kidney diseases—clinical practice recommendations from the Pediatric Renal Nutrition Taskforce

Christina L. Nelms[1] · Vanessa Shaw[2,3] · Larry A. Greenbaum[4,5] · Caroline Anderson[6] · An Desloovere[7] ·
Dieter Haffner[8] · Michiel J. S. Oosterveld[9] · Fabio Paglialonga[10] · Nonnie Polderman[11] · Leila Qizalbash[12] ·
Lesley Rees[2] · José Renken-Terhaerdt[13] · Jetta Tuokkola[14] · Johan Vande Walle[7] · Rukshana Shroff[2] ·
Bradley A. Warady[15]

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Published with Open Access

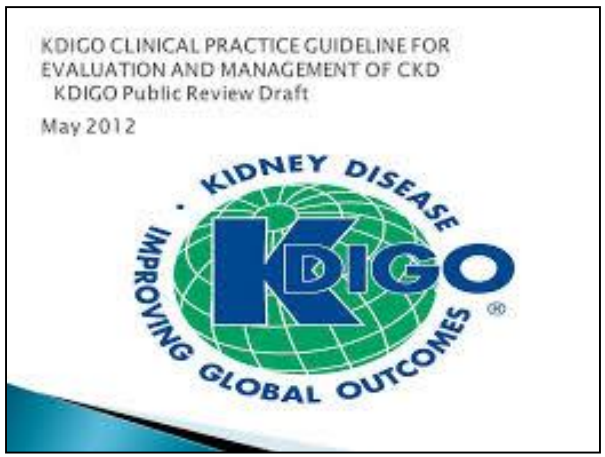
PRONA Pocket Guide

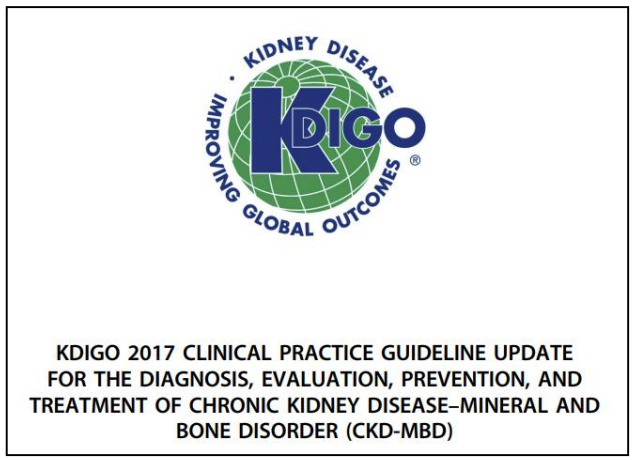
Pediatric **R**enal Dietitians **O**f **N**orth **A**merica

https://pixabay.com/illustrations/under-construction-construction-sign-2408066/

Kidney Disease Improving ***Global*** Outcomes (KDIGO)

Kidney Disease: Improving Global Outcomes (KDIGO) was originally established in 2003 by the National Kidney Foundation, a U.S. foundation experienced in developing and implementing guidelines. In 2013 KDIGO became an independently incorporated non-profit foundation, and is governed by an international volunteer Executive Committee.



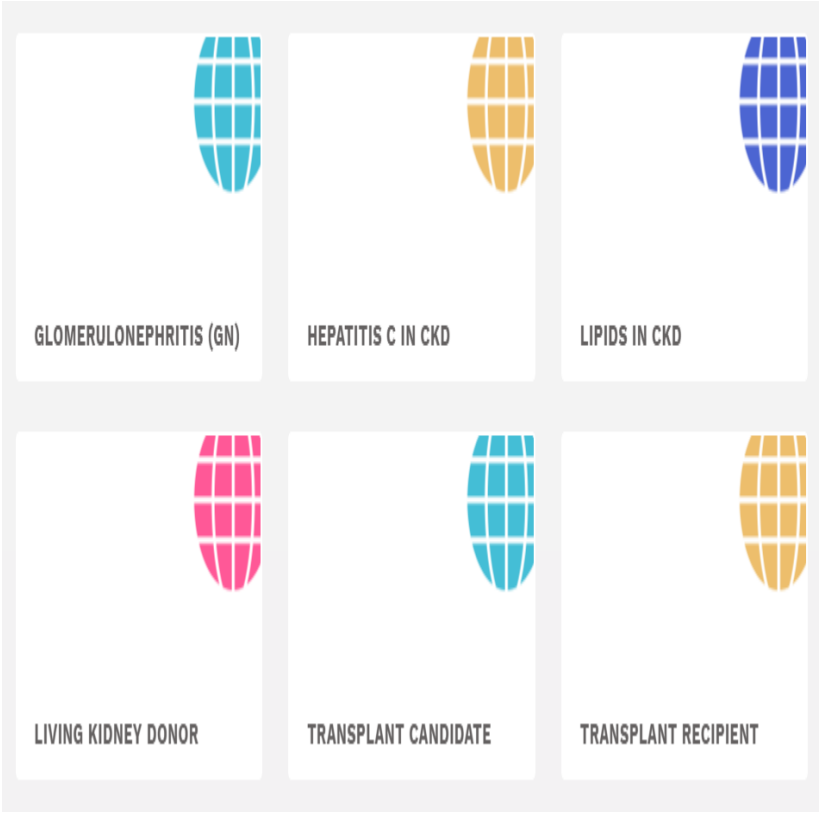


KDIGO guidelines translate the best worldwide scientific evidence into practical recommendations for clinicians and patients.

KDIGO

Eg.:
*KDIGO Clinical Practice Guideline for Evaluation and Management of CKD: 2012

*KDIGO 2017 Clinical Practice Guideline Update for the diagnosis, evaluation, prevention and treatment of CKD – (CKD-BMD)



TRIALS AND STUDIES

- Large studies that are relevant to practice…..

CKiD Study

Chronic Kidney Disease in Children

Home | Study Information | Study Administration | Investigator Resources | Coordinator's Corner | Psychologist's Corner | Family Corner

About CKiD

The CKiD Study is a NIH-funded, multicenter, prospective cohort study of children aged 6 months to 16 years with mild to moderate impaired kidney function. The primary goals of CKiD are to determine the risk factors for decline in renal function and to define how progressive decline in renal function impacts biomarkers of risk factors for cardiovascular disease; neurocognitive function and behavior; and growth failure and its associated morbidity. Two clinical coordinating centers (CCCs) (at Children's Hospital of Philadelphia and at Children's Mercy Hospital in Kansas City), a central biochemistry laboratory (at the University of Rochester), and a data coordinating center (at Johns Hopkins School of Public Health) formed a cooperative agreement to conduct the CKiD Study.

Study Aims

The specific aims are to:

- Identify novel and traditional renal disease risk factors for the progression of CKD (e.g. decline of GFR) in children
- Characterize the impact of a decline in kidney function on neurodevelopment, cognitive abilities, and behavior
- Identify the prevalence and evolution of traditional and novel cardiovascular disease risk factors in progressive CKD
- Examine the effects of declining GFR on growth and the treatment of growth failure, and to assess the consequences of growth failure on morbidity in children with CKD

CKiD Publications by Year

2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

2018 Publications

Barletta G, Pierce C, Mitsnefes M, Samuels J, Warady B, Furth S, Flynn J. Is blood pressure improving in children with chronic kidney disease?: a period analysis. Hypertension 2018;71:444-450. PMCID: PMC5812788

Brooks ER, Haymond S, Rademaker A, Pierce C, Helenowski I, Passman R, Vicente F, Warady BA, Furth SL, Langman CB. Contribution of symmetric dimethylarginine to GFR decline in pediatric chronic kidney disease. Pediatr Nephrol 2018;33:697-704. PMID: 29214443

Furth SL, Pierce C, Hui WF, White CA, Wong CS, Schaefer F, Wuehl E, Abraham A, Warady BA. Estimating time to ESRD in children with CKD. Am J Kidney Dis 2018; 71:783-792. PMCID: PMC5970998 (Letter to the Editor by KW Choy pii:S0272-6386(18)30758-3; Response on pii: S0272-6386(18)30757-1).

Ku E, McCulloch CE, Warady BA, Furth SL, Grimes BA, Mitsnefes M. Twenty-four-hour Ambulatory Blood Pressure Versus Clinic Blood Pressure Measurements and Risk of Adverse Outcomes in Children with CKD. CJASN 2018;13:422-428. PMID: 29440119

North American Pediatric Renal Trials and Collaborative Studies

NAPRTCS Online

Resources

- Home
- Announcements
- Resources
- Study Documents
- Directory
- Study Login
- Training System
- Coordinators
- Benchmark Project
- CHA-QI
- Other Information

Advantage eClinical Training Video

Advantage eClinical Quick Reference Guide

Data System Access Specification Form

Frequently Asked Questions (FAQ)

Growth Chart Calculator

HIPPA Sample Authorization Form

NAPRTCS Center in Good Standing Criteria

NAPRTCS PCC Newsletter

NAPRTCS PCC Operations Manual

Organizational Chart

Presentations from Annual Meeting

Special Studies Application with Instructions

Tax Payer ID Form

Training Manual

https://naprtcs.org/study-details/bibliography

https://web.emmes.com/study/ped/resources.htm

International Pediatric Dialysis Network

LOGIN
[Registration Form]
About IPDN
Network Participants
Links
IPDN Sponsors
Contact
Privacy Policy

About IPDN

The International Pediatric Dialysis Network is a global consortium of pediatric nephrology centers dedicated to the care of children on chronic dialysis. The IPDN aims to

- **improve the quality of pediatric dialysis care worldwide**
- **collect basic information regarding pediatric dialysis practices and outcomes**
- **provide useful tools and management algorithms for daily dialysis practice**
- **provide global benchmarking of pediatric dialysis outcomes**
- **perform prospective observational studies on important clinical issues in pediatric dialysis**

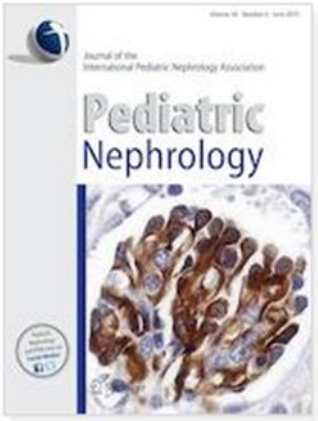
IPDN entertains two registries:
The IPPN registry for children on chronic peritoneal dialysis, and the IPHN registry for children on hemodialysis.If you would like to join the IPDN, please fill out the registration form. IPDN membership is free of charge. We grant institutional and individual memberships: With your institutional membership you have access to all information pages of the website.

At present,
245 institutions participate in the network
and
573 individual members actively contribute data to the network.

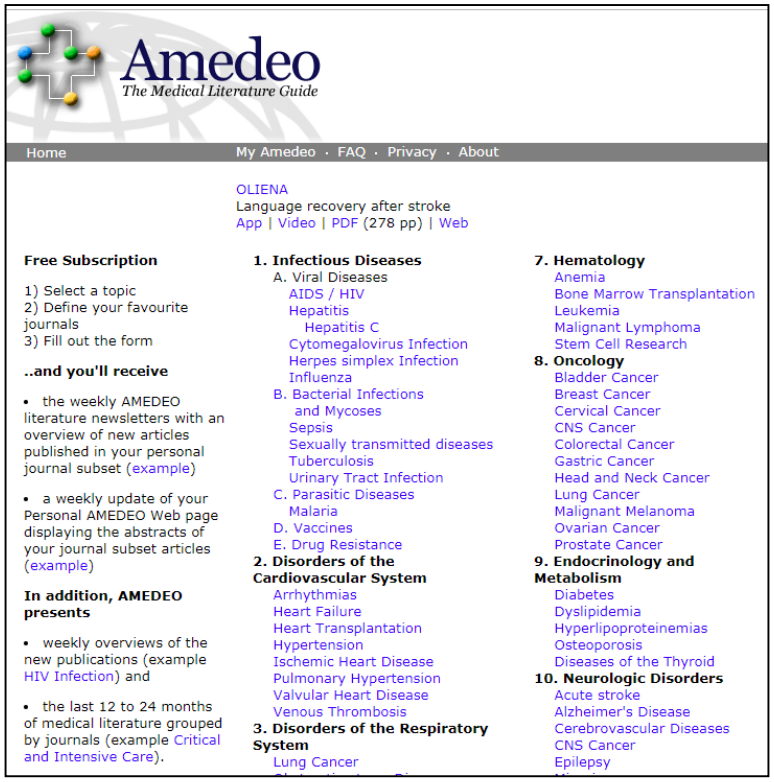
To date,
3662 patients have been enrolled in the IPPN Registry at 128 contributing centers in 43 countries
and
917 patients have been enrolled in the IPHN Registry at 84 contributing centers in 36 countries.

Relevant Journals

- Journal of Renal Nutrition
- Pediatric Nephrology
- Peritoneal Dialysis International
- American Journal of Kidney Disease
- Kidney International
- Clinical Journal of the American Society of Nephrology
- Nephrology News & Issues
- Nephrology, Dialysis, and Transpla



Literature Search Services – e.g.Amedeo



Renal
Nutrition
Pediatrics
Other interests

Weekly emails with bibliographic lists about new publications

Literature Search Services – e.g.Amedeo

We have screened the following journals for you:
Am J Kidney Dis
Am J Nephrol
BMJ
J Am Soc Nephrol
J Pediatr
J Ren Nutr
Kidney Int
Lancet
N Engl J Med
Nephrol Dial Transplant
Nephron
Pediatr Nephrol

11. LUBBE K, Nusken E, Rascher K, von Gersdorff G, et al.
Glomerular disease patients have higher odds not to reach quality targets in chronic dialysis compared with CAKUT patients: analyses from a nationwide German paediatric dialysis registry.
Pediatr Nephrol. 2019 Mar 6. pii: 10.1007/s00467-019-04218.
PubMed: www.amedeo.com/p2.php?id=30843113&s=crf&pm=a1b7681ac819d1b
ABSTRACT available
Share: http://m.amedeo.com/30843113

12. WONG VEGA M, Juarez Calderon M, Tufan Pekkucuksen N, Srivaths P, et al.
Feeding modality is a barrier to adequate protein provision in children receiving continuous renal replacement therapy (CRRT).
Pediatr Nephrol. 2019 Mar 6. pii: 10.1007/s00467-019-04211.
PubMed: www.amedeo.com/p2.php?id=30843114&s=crf&pm=a1b7681ac819d1b
ABSTRACT available
Share: http://m.amedeo.com/30843114

13. HWANG SH, Lee DH, Min J, Jeon JY, et al.
Handgrip Strength as a Predictor of All-Cause Mortality in Patients With Chronic Kidney Disease Undergoing Dialysis: A Meta-Analysis of Prospective Cohort Studies.
J Ren Nutr. 2019 Feb 28. pii: S1051-2276(19)30002.
PubMed: www.amedeo.com/p2.php?id=30827839&s=crf&pm=a1b7681ac819d1b
ABSTRACT available
Share: http://m.amedeo.com/30827839

Professional Networking

NKF: Council on Renal Nutrition
AND: Renal Practice Group
www.renalNutrition.org

AND: Pediatric Nutrition Practice Group

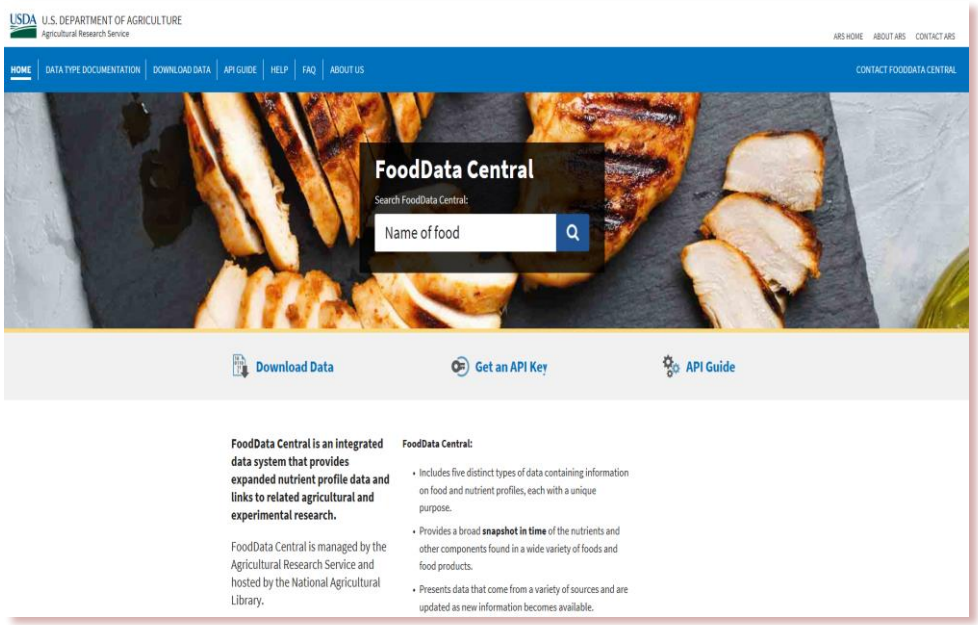
PRONA: Pediatric Renal Dietitians of North America
website is currently under development
www.prona.online

Adult Renal Listserv:
renalrd-request@mailman.srv.ualberta.ca

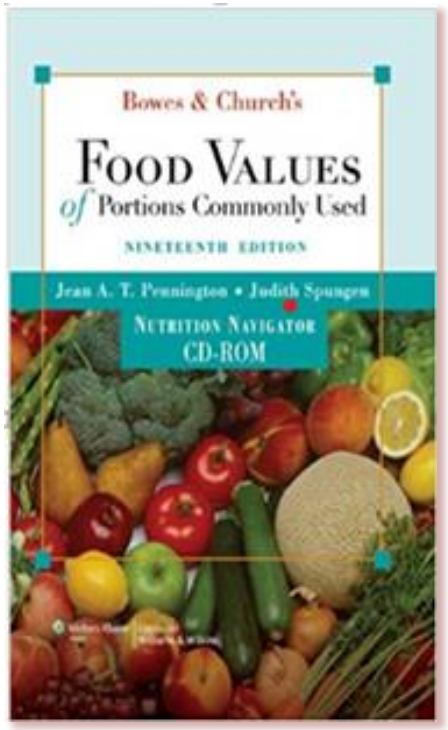
Peds Renal Listserv:
PedsRenalRD@mailman.srv.ualberta.ca

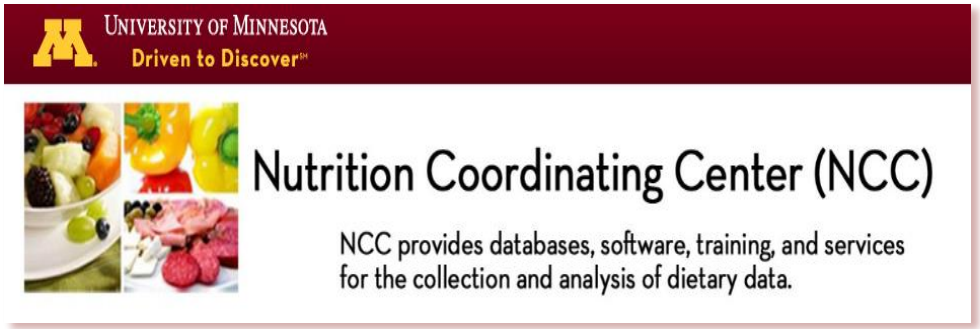
Peds Nutrition Listserv:
PEDI-RD@LIST.UIOWA.EDU

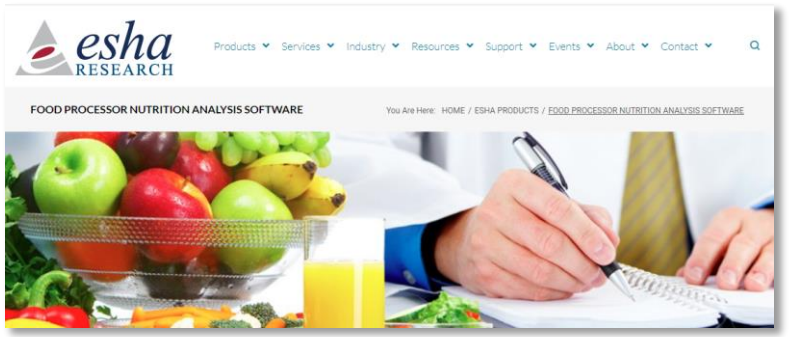
Diet Analysis



https://fdc.nal.usda.gov







BC Children's Hospital
An agency of the Provincial Health Services Authority

CALCULATORS

Conferences to Attend

Specific to Pediatric Renal Nutrition:

NKF – National Kidney Foundation – Spring Clinical Meeting

www.kidney.org/spring-clinical

WSPN – Western Society of Pediatric Nephrology

**does not always have a nutrition program*.

ASPN – American Society of Pediatric Nephrology –
Allied Health Symposium

1.5 day meeting - Las Vegas 2019

ADC – Annual Dialysis Conference
with pre-conference workshop: Fundamentals of Dialysis in Children

PRNA – Pediatric Renal Nutrition Academy

1-2 day events solely dedicated to Pediatric Renal Nutrition

NATCO – North American Transplant Coordinators Organization
www.natco1.org/education/nutrition-conference.asp

Learning Modules / Webinars

Modules:

eg. Abbott

Webinars:

eg. Vitaflo

https://anhi.org/education/course-catalog
https://education.kidney.org/
https://www.nestlehealthscience.us/vitaflo-usa/via/pediatric%20renal%20disease/pediatricrenal

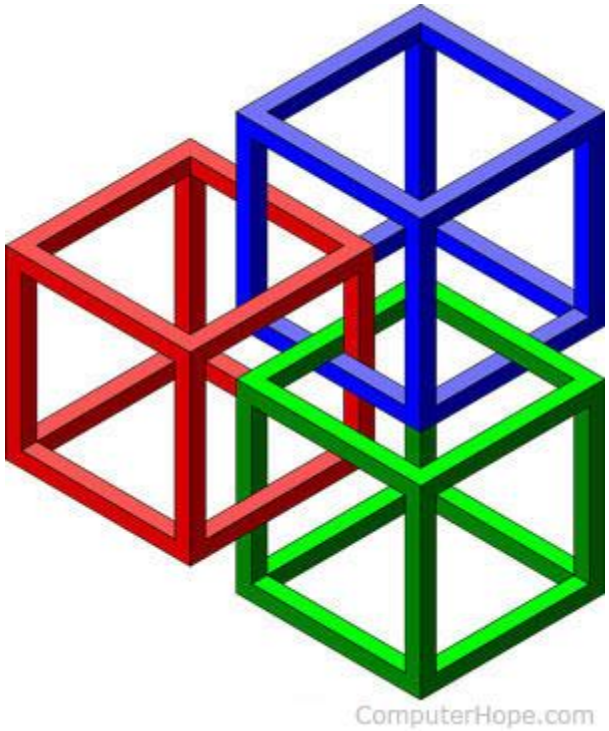
NAVIGATING PEDIATRIC NEPHROLOGY

Regulatory Guidelines

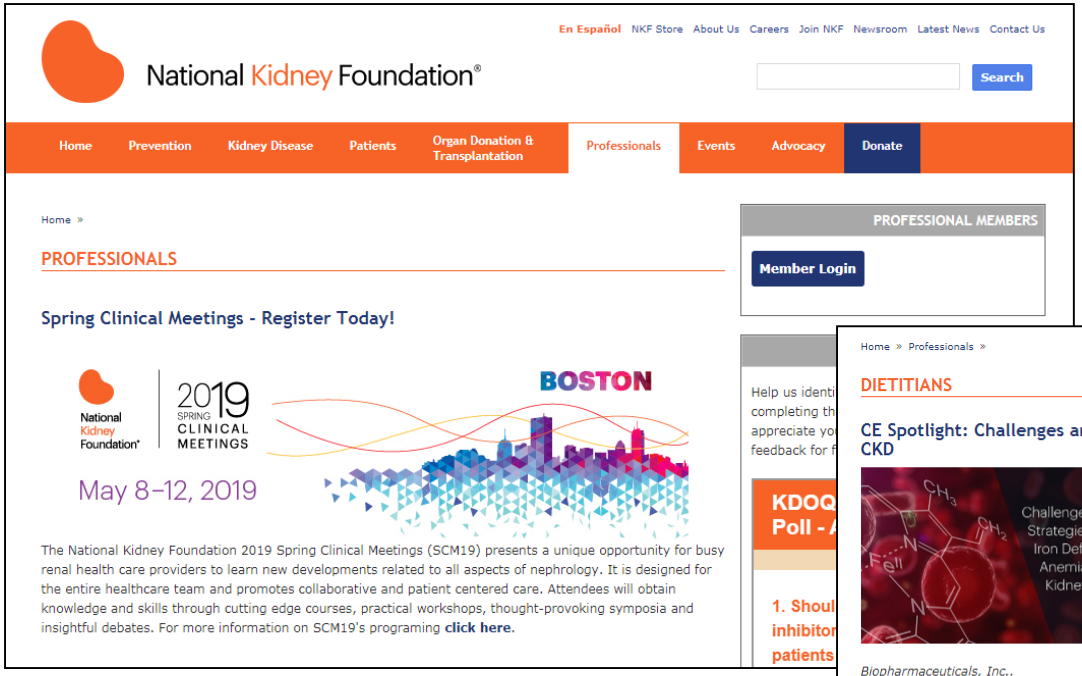
Professional Practise

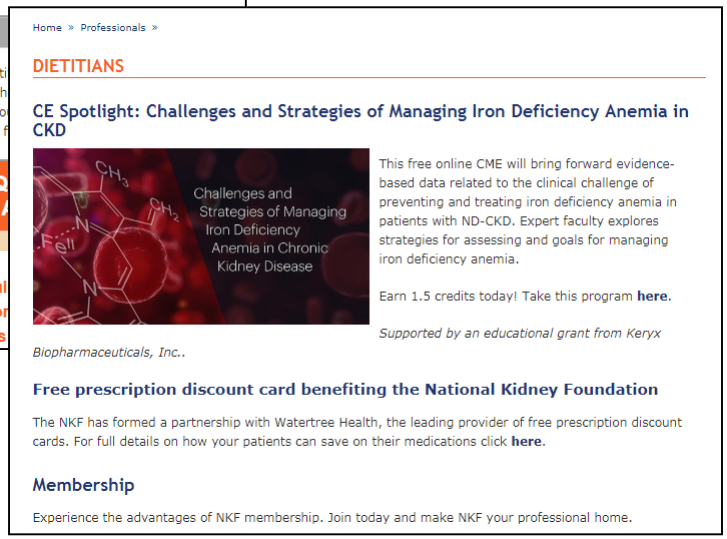
Knowledge/ Networking

Patient Resources

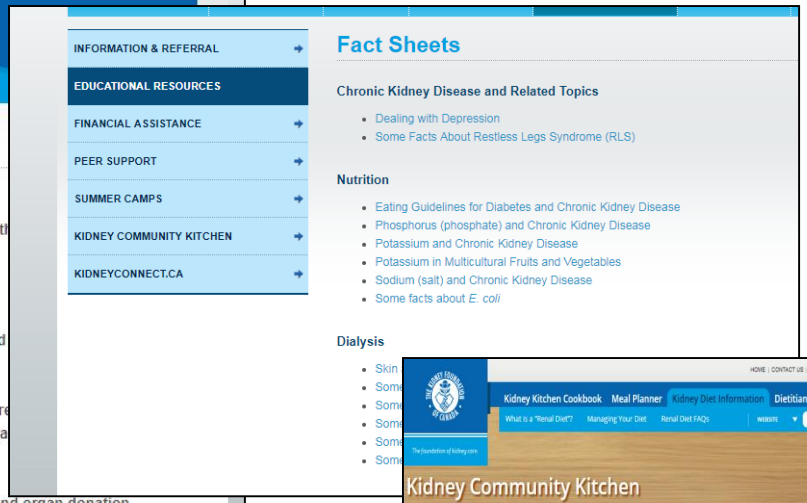


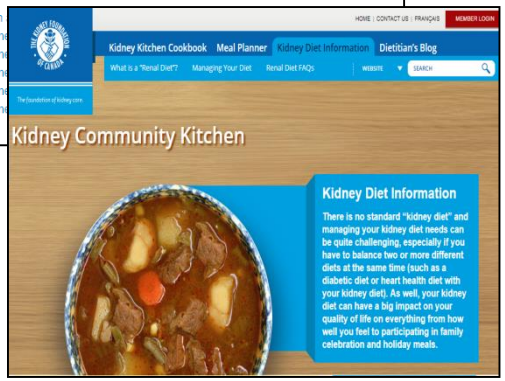
National Kidney Foundation- US



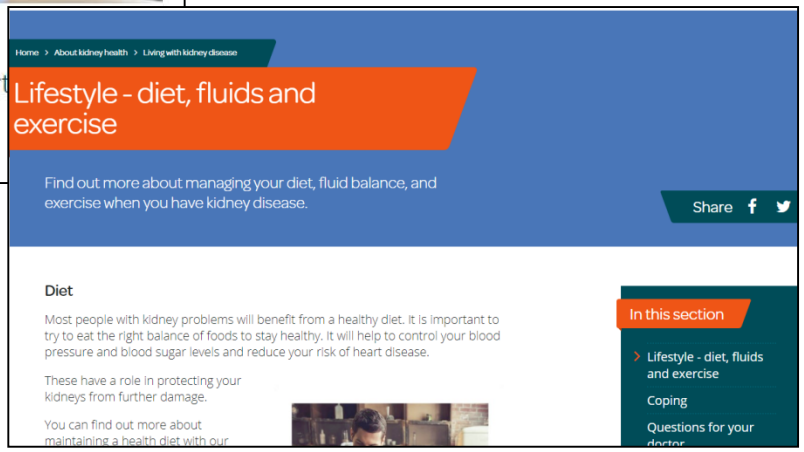


Kidney Foundation of Canada





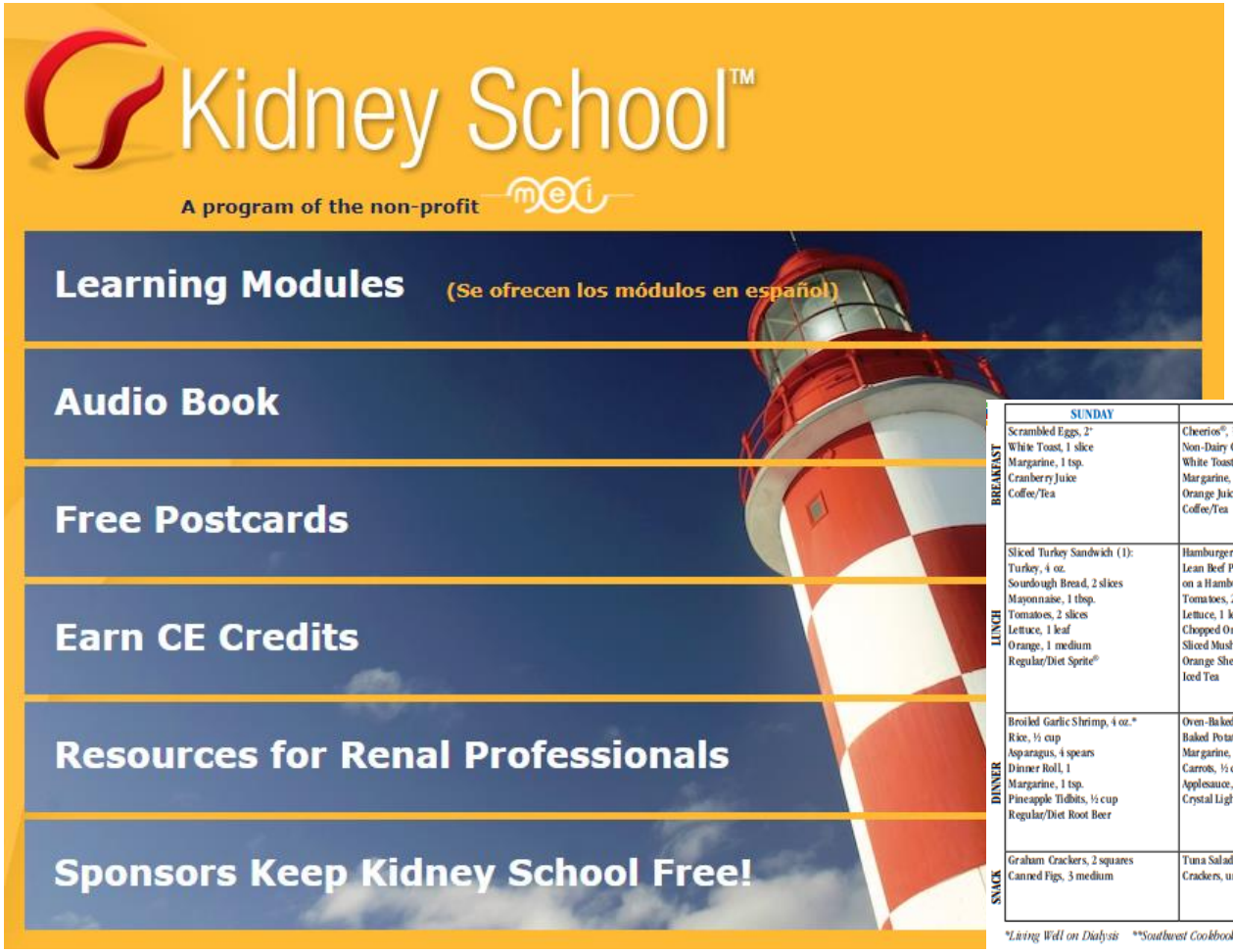
Kidney Care - UK



Kidney School

kidneyschool.org

Module on Nutrition

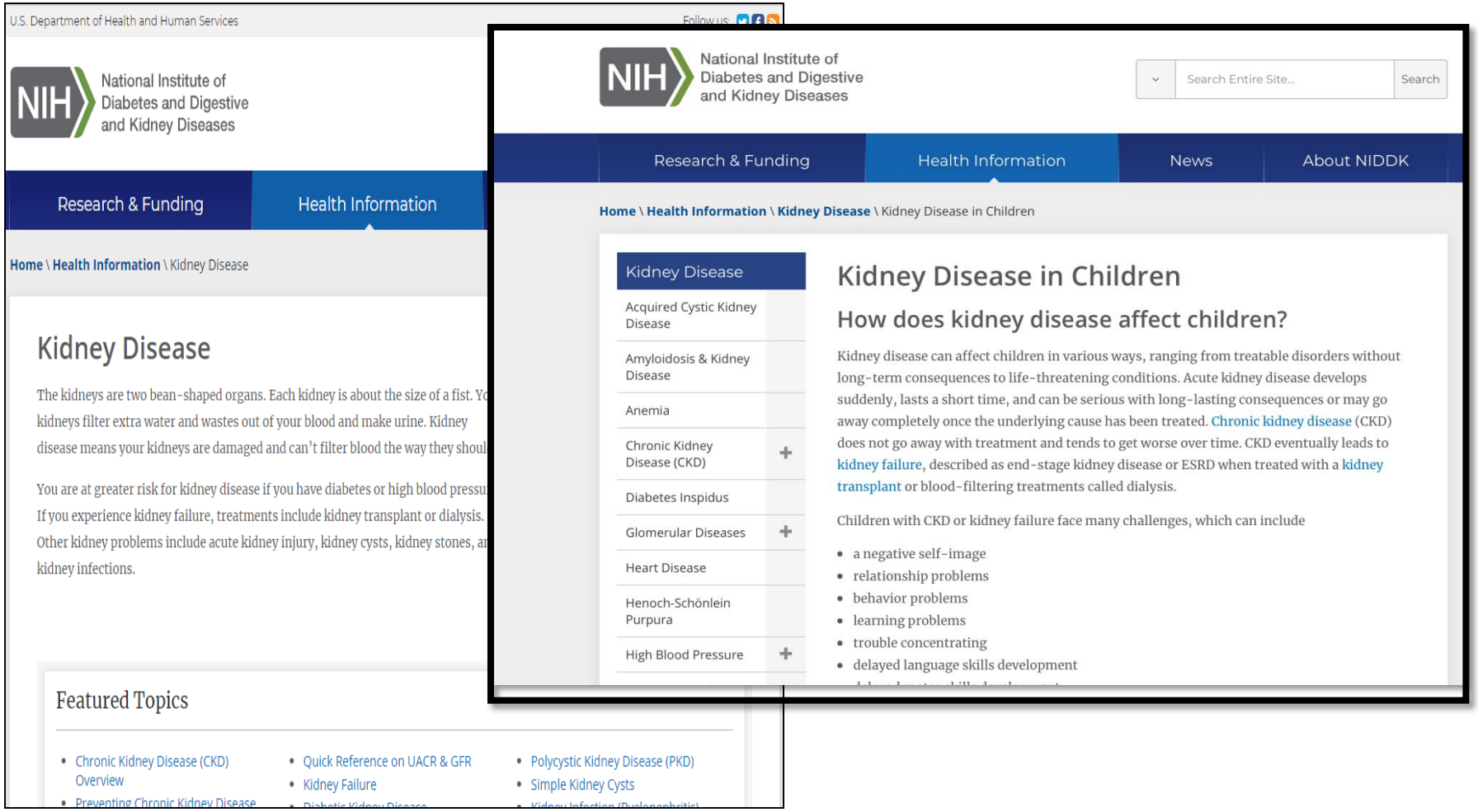


	SUNDAY	MONDAY	TUESDAY	WEDNESDAY
BREAKFAST	Scrambled Eggs, 2* White Toast, 1 slice Margarine, 1 tsp. Cranberry Juice Coffee/Tea	Cheerios®, ½ cup with Non-Dairy Creamer, ½ cup White Toast, 1 slice Margarine, 1 tsp. Orange Juice Coffee/Tea	French Toast, 2 slices: Eggs, 2* White Bread, 2 slices Margarine, 2 tsp. Maple Syrup, 4 tbsp. Strawberry/Banana Juice Coffee/Tea	Cornflakes, ½ cup with Non-Dairy Creamer, ½ cup Bagel, 1 Jam/Jelly, 2 tsp. or Cream Cheese, 2 tsp. Grapefruit, 1 whole Coffee/Tea
LUNCH	Sliced Turkey Sandwich (1): Turkey, 4 oz. Sourdough Bread, 2 slices Mayonnaise, 1 tbsp. Tomatoes, 2 slices Lettuce, 1 leaf Orange, 1 medium Regular/Diet Sprite®	Hamburger (1): Lean Beef Patty, 4 oz., on a Hamburger Bun Tomatoes, 2 slices Lettuce, 1 leaf Chopped Onion, 1 tbsp. Sliced Mushrooms, ¼ cup Orange Sherbet, ¼ cup Iced Tea	Grilled Salmon, 4 oz. Mexican Pasta, 1 cup** Corn Bread Roll, 1 Margarine, 1 tsp. Mixed Green Salad, ½ cup Oil and Vinegar Dressing: Salad/Olive Oil, 2 tsp. Vinegar, 1 tsp. Kiwi, 1 Regular/Diet Sprite®	Tuna Sandwich (1): Low Sodium/Water Packed Tu flaked, 4 oz. Mayonnaise, 1 tbsp. Chopped Onions, 1 tbsp. Chopped Celery, 1 tbsp. Swiss Cheese, 1 oz. Hard Bread Roll, 1 Apple, 1 medium Regular/Diet Root Beer
DINNER	Broiled Garlic Shrimp, 4 oz.* Rice, ½ cup Asparagus, 4 spears Dinner Roll, 1 Margarine, 1 tsp. Pineapple Tidbits, ½ cup Regular/Diet Root Beer	Oven-Baked Chicken, 4 oz. Baked Potato, 1 small Margarine, 2 tsp. Carrots, ½ cup Applesauce, ½ cup Crystal Light®	Salisbury Steak, 4 oz., with: Sliced Mushrooms, ½ cup Chopped Onions, ¼ cup Dinner Roll, 1 Margarine, 1 tsp. Artichokes, ½ cup Jell-O®, ½ cup Lemonade	Baked Pork Chop, 4 oz. Rice, ½ cup Steamed Broccoli, ½ cup Margarine, 1 tsp. Fresh Apricots, 4 Iced Tea
SNACK	Graham Crackers, 2 squares Canned Figs, 3 medium	Tuna Salad, ¼ cup Crackers, unsalted tops 6	Baked Apple with: Sugar, 2 tsp. Margarine, 2 tsp. Cinnamon, 1 tsp.	Chili Wheat Treats, ½ cup*

*Living Well on Dialysis **Southwest Cookbook *Egg substitute/egg whites can be used in place of whole eggs

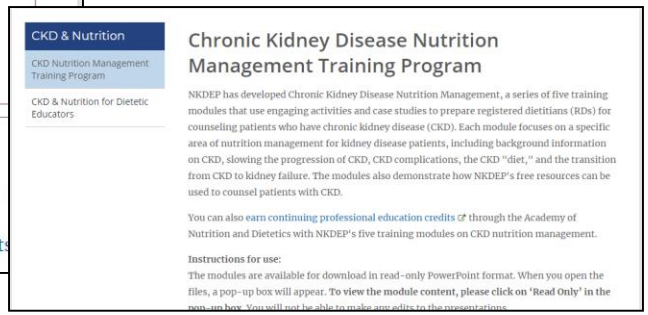
National Institute of Diabetes and Digestive and Kidney Disease

www.niddk.nih.gov



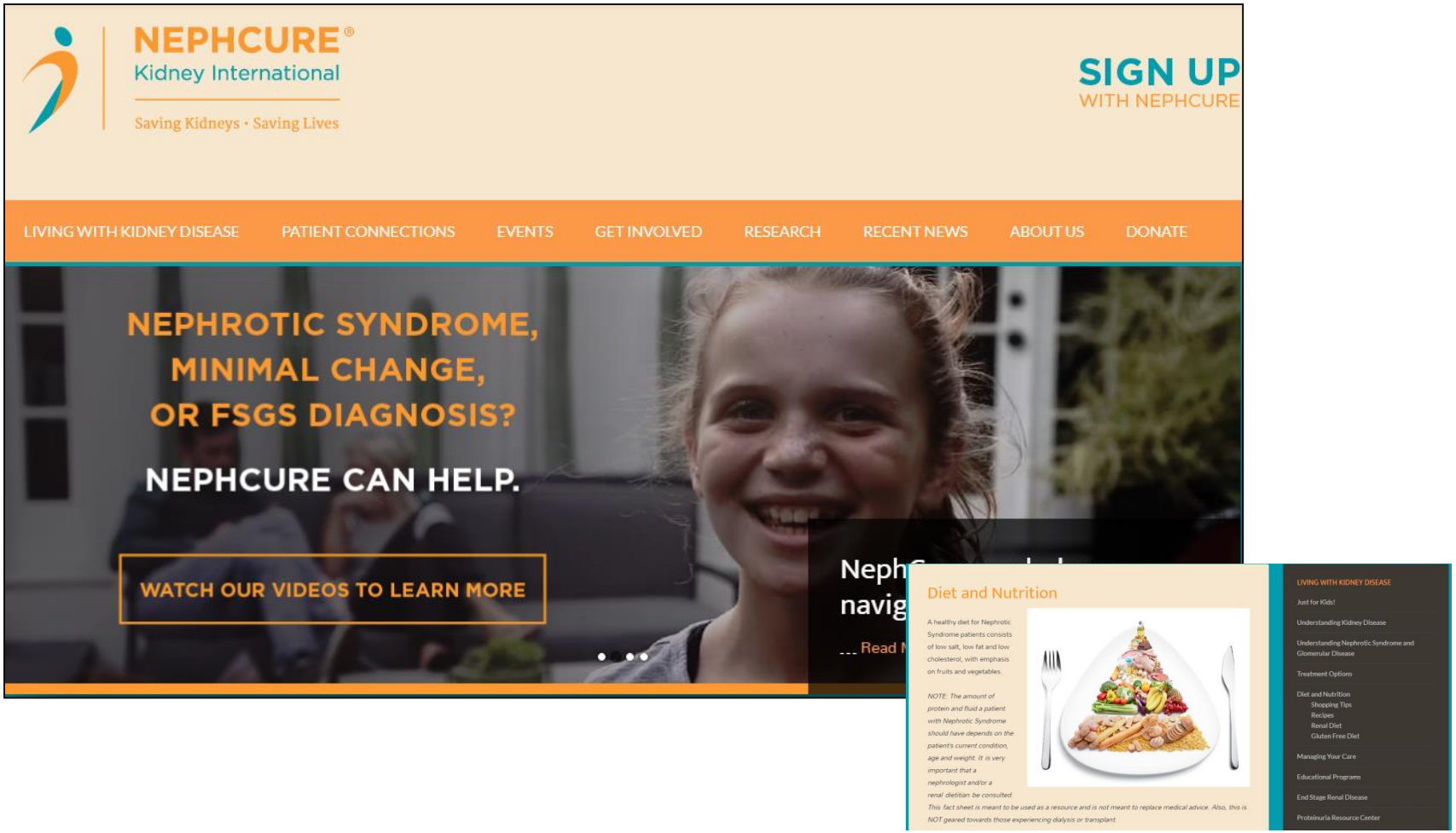
National Kidney Disease Education Program

www.niddk.nih.gov/health-information/health-communication-programs/nkdep



NephCure

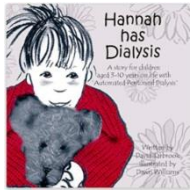
nephcure.org

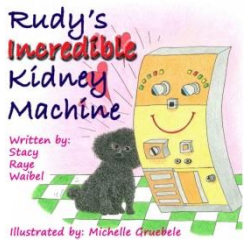


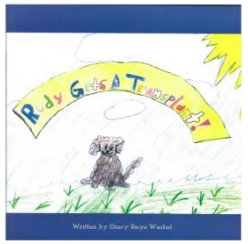
Other Patient Education

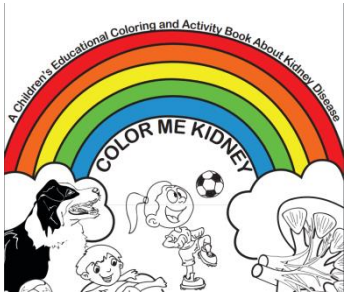
Patient Resources/Sites:
Kidney.org – NKF- patient tab
Rsnhope.org – Renal Support Network

Books/Booklets:
Rudy's Incredible Kidney Machine
Rudy Gets a Transplant
Melsy takes Dialysis to show and tell
Hannah has Dialysis
Color Me Kidney



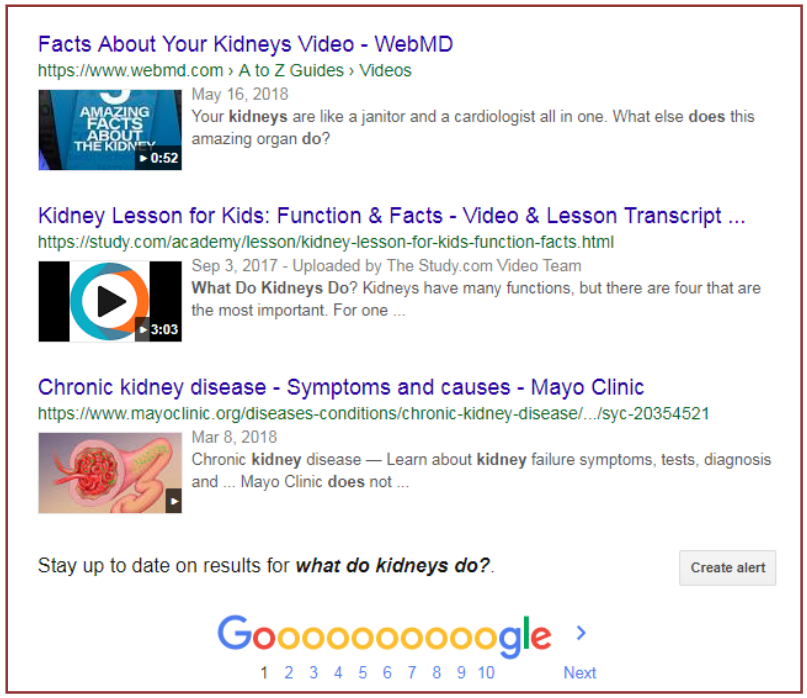






Online videos

Google and Youtube: what do kidneys do?



CHOOSE MY PLATE with CHRONIC KIDNEY DISEASE

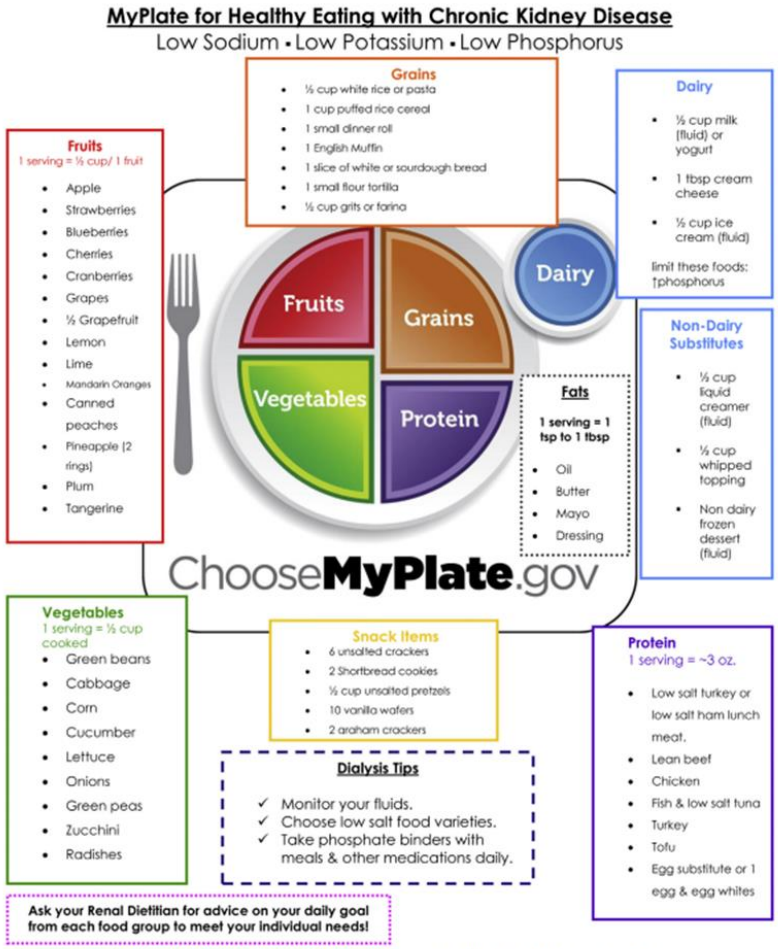


Figure 1. MyPlate handout for healthy eating with chronic kidney disease.

RECIPES!!

- Recipes
  - www.Kidneygrub.com (patient tab)
  - www.kidneyrd.com (patient tab)
  - www.kidneycommunitykitchen.ca
  - www.ultracare-dialysis.com/RecipeCenter.aspx (RD and chef)
  - www.davita.com (600 recipes with nutrient profiles)
  - www.myspiceitup.ca (great visuals with nutrient info)

- Free Downloads
  - www.dciinc.org/recipes/
  - www.kidney.org/sites/default/files/docs/kidney_cookbook_lr.pdf
  - www.kidney.org.uk/documentlibrary/food_with_thought.pdf

- Videos
  - https://www.youtube.com/user/BCRenalAgency
  - http://www.bcrenalagency.ca/health-info/managing-my-care/diet

Apps

Nutrition Apps for Managing Chronic Kidney Disease

MyFoodCoach®
Available for Free: Apple, Android
Summary: Created by the National Kidney Foundation to help you manage personalized nutritional goals. It offers nutrition information, recipes, ingredients, and full meal plans designated for patients with diabetes, CKD, and hypertension.
Link: https://www.kidney.org/apps/patients/my-food-coach-app

Fooducate®
Available for Free: Apple, Android
Summary: Records food intake, activity, sleep, and mood. This app keeps track of calories, protein, sodium, fat, and more. View your progress and stay motivated by connecting with friends and community for support.
Link: https://www.fooducate.com/

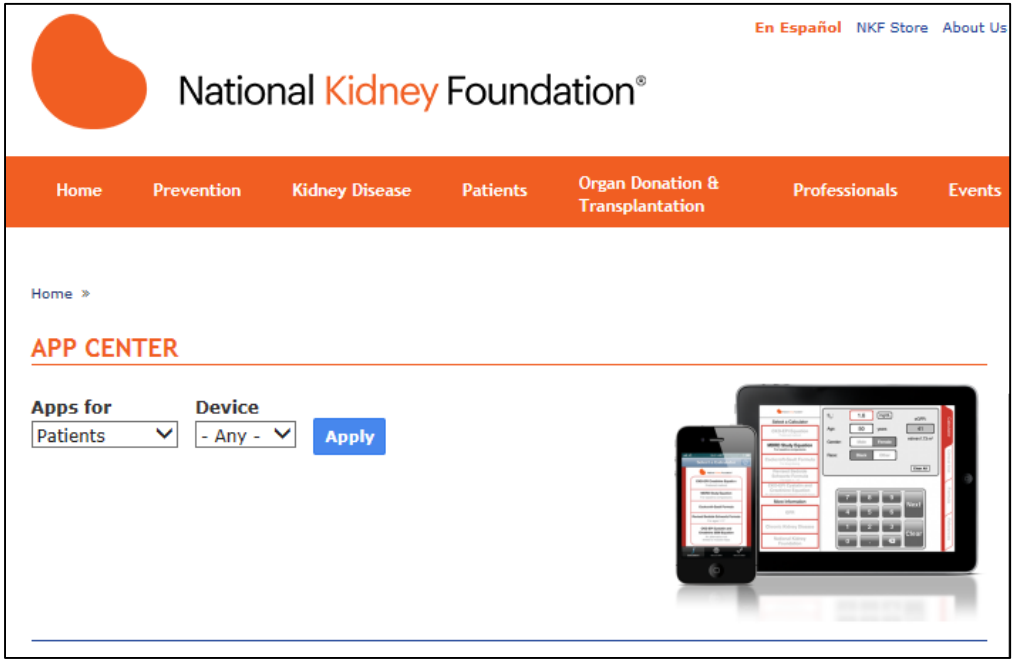
ShopWell®
Available for Free: Apple, Android
Summary: YottaMark, Inc. provides the ability to scan items to tell you ingredients of the foods you are purchasing. This app also offers suggestions of new items to try, helps identify food for certain diets or allergies, and includes an "Ask the RD" section. This can help you track sodium and other nutrients of concern while shopping.
Link: http://www.shopwell.com/mobileapp

H2Overload®
Available for Free: Apple
Summary: National Kidney Foundation's app for management of fluid intake, weight, and blood pressure and provides education on these medical conditions. The app also contains an option to send your results to healthcare providers.
Link: https://www.kidney.org/apps/H2Overload-app

Mango Health®
Available for Free: Apple, Android
Summary: This app allows you to manage your medications and create a schedule of healthy habits. It provides medication information such as food or other drug interactions. You can earn points for compliance and potentially earn rewards.
Link: https://www.mangohealth.com/

Klein,J. Utilization of Mobile Nutrition Applications by Patients With Chronic Kidney Disease. J Ren Nutr Vol 29, 1:e5-e7 (January 2019)

FINDING APPS



Evidenced based?

Limited market

Tube feeding

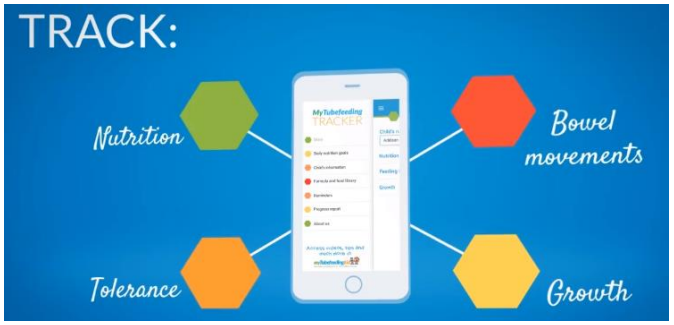
Tube Feeding Awareness Foundation

www.feedingtubeawareness.org/

Feeding pump assistance

www.infinityfeedingpump.com/virtual-pump/

App: my tube feeding tracker



IN SUMMARY…..

Delivering nutrition care in pediatric nephrology demands:

- that you have a solid understanding of pediatric nutrition as well as kidney related issues,
- that you keep an open mind and consider the many possibilities for solutions to problems,
- that you never stop learning!!!

Just the beginning!.....

…the sky's your limit!!!

Speaker Contact: Nonnie Polderman
npolderman@cw.bc.ca