



醫療新知

末期腎臟病與營養評估

前言

- 大多數慢性病舉凡高血壓、高血脂、糖尿病、痛風、腎臟病等，病患看診時一定都有接受過飲食衛教。疾病的控制除了用藥，其實更基本也更有用的是調整生活作息和飲食內容，例如三高若能靠飲食、運動達標，那藥物就不是必要使用的了。
- 慢性腎臟病的控制，除了極少數的藥物經臨床驗證可延緩疾病惡化，飲食是最重要的控制手段，避免有一天不得不開始透析。就算進入末期腎衰竭，舉凡尿毒、電解質、熱量，也仍須腎友持續飲食控制，才能活得久、活得好。雖說萬變不離其宗，到底要怎麼吃，什麼能吃什麼不能吃，就要營養評估才能滿足個人需要。

2.0 Statements on Medical Nutrition Therapy (MNT)

MNT to Improve Outcomes

- 2.1.1 In adults with **CKD 1-5D**, we recommend that a registered dietitian nutritionist (RDN) or an international equivalent, in close collaboration with a physician or other provider (nurse practitioner or physician assistant), provide MNT. Goals are to optimize nutritional status, and to minimize risks imposed by comorbid conditions and alterations in metabolism on the progression of kidney disease (1C) and on adverse clinical outcomes (*OPINION*).

為什麼要做營養評估？

- 每個人舉凡性別、年齡、體格、活動力、飲食習慣、罹患疾病皆有所不同，希望達成的目標也不一樣，例如太瘦、血糖過高、缺鐵貧血；又如有的腎友害怕尿毒過高都不敢吃肉，反而肌肉消瘦、體力變差；有的腎友知道他不能吃什麼，卻不知道能吃什麼來替代，所以食物選項越來越少，這些都得經個別評估，才有辦法決定具體該如何改善。

多久做一次？

- 由專業營養師執行，如果開始透析，最好 90 天內先做一次。常規可以 1~2 年評估一次，不過只要有需要可隨時進行，不須拘泥時限。

1.0 Statements on Usual Care

Routine Nutrition Screening

1.0.1 In adults with CKD 3-5D or posttransplantation, it is reasonable to consider routine nutrition screening **at least biannually** with the intent of identifying those at risk of protein-energy wasting (*OPINION*).

Nutrition Screening Tools

1.0.2 In adults with CKD 3-5D or posttransplantation, there is limited evidence to suggest the use of one tool over others for identifying those at risk of protein-energy wasting (PEW) (2D).

Routine Nutrition Assessment

1.0.3 In adults with CKD 3-5D or posttransplantation, it is reasonable that a **registered dietitian nutritionist (RDN)** or an international equivalent conduct a comprehensive nutrition assessment (including but not limited to appetite, history of dietary intake, body weight and body mass index, biochemical data, anthropometric measurements, and nutrition-focused physical findings) at least within the **first 90 days of starting dialysis, annually, or when indicated** by nutrition screening or provider referral (*OPINION*).

怎麼評估？

- 一般包含胃口、三餐及點心內容、乾體重、抽血報告，其他可能包含一些人體測量，如身體質量指數(BMI)、腰圍、體脂含量等等。
- 以實證醫學而論，除了握力可以反映腎友營養和體力的變化，7分主觀整體評估是由病患自行主觀回答的問卷，包含體重變化、胃口、腸胃症狀、體力、是否需要多吃、肌肉萎縮、消瘦、水腫，可以確實反映病患真實的營養狀態。

MNT Monitoring and Evaluation

2.1.3 In adults with CKD 3-5D or posttransplantation, it is reasonable for the registered dietitian nutritionist (RDN) or an international equivalent to monitor and evaluate appetite, dietary intake, body weight changes, biochemical data, anthropometric measurements, and nutrition-focused physical findings to assess the effectiveness of MNT (*OPINION*).

1.5 Statements on Composite Nutritional Indices

7-Point Subjective Global Assessment (SGA)

1.5.1 In adults with CKD 5D, we recommend the use of the 7-point Subjective Global Assessment as a valid and reliable tool for assessing nutritional status (**1B**).

Weight loss ____ kg in the past 6 months

Ratings	Weight loss
7	0%
6	<3%
5	3-<5%
4	5-<7%
3	7-<10%
2	10-<15%
1	≥15%

If ↑ weight trend, add 1 point, if ↓ weight trend within 1 month, minus 1 point

Dietary Intake (past 2 weeks)

- 7) Good (Full share of usual meal)
- 6) Good ($> \frac{3}{4}$ - < 1 share of usual meal)
- 5) Borderline ($\frac{1}{2}$ - $\frac{3}{4}$ share of usual meal), but increasing
- 4) Borderline ($\frac{1}{2}$ - $\frac{3}{4}$ share of usual meal), no change or decreasing
- 3) Poor ($< \frac{1}{2}$ share of usual meal), but increasing
- 2) Poor ($< \frac{1}{2}$ share of usual meal), no change or decreasing
- 1) Starvation ($< \frac{1}{4}$ of usual meal)

Gastrointestinal symptoms (that persisted for > 2 weeks)

Nausea: ____ Vomiting: ____ Diarrhea: ____

- 7) No symptom
- 6) Very few intermittent symptoms (1x per day)
- 5) Some symptoms (2-3x per day)—improving
- 4) Some symptoms (2-3x per day)—no change
- 3) Some symptoms (2-3x per day)—getting worse
- 1-2) Some or all symptoms (> 3x per day)

RATINGS						
(circle one rating for each category)						
7	6	5	4	3	2	1
7	6	5	4	3	2	1
7	6	5	4	3	2	1

Functional status (nutrition related)

6-7) Full functional capacity
 3-5) Mild to moderate loss of stamina
 1-2) Severe loss of functional ability (bedridden)

Disease state affecting nutritional requirements

6-7) No increase in metabolic demand (no or low stress)
 3-5) Mild to moderate increase in metabolic demand (moderate stress)
 1-2) Drastic increase in metabolic demand (high stress)

Muscle wastage: 6-7) No depletion in all areas
 (at least 3 areas) 3-5) Mild to moderate depletion
 1-2) Severe depletion

Fat stores 6-7) No depletion in all areas
 3-5) Mild to moderate depletion
 1-2) Severe depletion

Edema: 6-7) No edema
 (nutrition related) 3-5) Mild to moderate edema
 1-2) Severe edema

7	6	5	4	3	2	1
7	6	5	4	3	2	1
7	6	5	4	3	2	1
7	6	5	4	3	2	1
7	6	5	4	3	2	1

Nutritional Status: Well Nourished / Mildly to Moderately Malnourished / Severely Malnourished

Overall SGA Rating: 7 6 5 4 3 2 1
 (circle one)

能不能抽血或做檢查？

- 任何單一抽血或檢查都不足以斷定營養狀況好壞，只能作為輔助參考。
- 不過，有強烈臨床證據顯示，血液白蛋白過低(<3.5g/dL)則存活率較差。

1.2 Statements on Assessment With Laboratory Measurements

Single Biomarker Measurements

1.2.1 In adults with **CKD 1-5D** or posttransplantation, biomarkers such as normalized protein catabolic rate (nPCR), serum albumin, and/or serum prealbumin (if available) may be considered complementary tools to assess nutritional status. However, they should not be interpreted in isolation to assess nutritional status as they are influenced by non-nutritional factors (*OPINION*).

Serum Albumin Levels

1.2.2 In adults with **CKD 5D on MHD**, serum albumin may be used as a predictor of hospitalization and mortality, with lower levels associated with higher risk (**1A**).

1.3 Statement on Handgrip Strength

1.3.1 In adults with **CKD 1-5D**, we suggest that handgrip strength may be used as an indicator of protein-energy status and functional status when baseline data (prior measures) are available for comparison (**2B**).

打營養針不就好了？

- 腸道營養，無論口服或管灌，還是比靜脈營養要安全(例如併發感染、肝功能異常)，也比較經濟實惠，若自己吃不知如何調整，也可以選用配方奶，除非真的無法進食或多方嘗試依舊營養不足，不建議直接在洗腎室接受靜脈營養。

4.1 Statements on Oral, Enteral, and Intradialytic Parenteral Nutrition Supplementation

Oral Protein-Energy Supplementation

4.1.1 In adults with **CKD 3-5D (2D)** or **posttransplantation (OPINION)** at risk of or with **protein-energy wasting**, we suggest a minimum of a 3-month trial of oral nutritional supplements to improve nutritional status if dietary counseling alone does not achieve sufficient energy and protein intake to meet nutritional requirements.

Enteral Nutrition Supplementation

4.1.2 In adults with **CKD 1-5D**, with chronically inadequate intake and whose protein and energy requirements cannot be attained by dietary counseling and oral nutritional supplements, it is reasonable to consider a trial of enteral tube feeding (**OPINION**).

Total Parenteral Nutrition (TPN) and Intradialytic Parenteral Nutrition (IDPN) Protein-Energy Supplementation

4.1.3 In adults with **CKD with protein-energy wasting**, we suggest a trial of TPN for **CKD 1-5 patients (2C)** and IDPN for **CKD 5D on MHD patients (2C)**, to improve and maintain nutritional status if nutritional requirements cannot be met with existing oral and enteral intake.

結語

- 飲食對腎臟病非常重要，洗腎者常併有其他多種慢性病，限制更多。如何才能吃得對吃的夠，可借助營養評估，控制疾病也兼顧生活品質。
- 資料來源

Ikizler TA, Burrowes JD, Byham-Gray LD, et al;KDOQI Nutrition in CKD Guideline Work Group. KDOQI clinical practice guideline for nutrition in CKD: 2020 update. Am J Kidney Dis. 2020;76(3)(suppl 1):S1-S107

資料來源：安慎診所洗腎室

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