

PATIENT DIET COMPANION · CKD NUTRITION

# LPD & VLPD Diet Plan for CKD

Filipino meal plans for patients on ketoanalogues. Covers weights **40–80 kg**. Use with your nephrologist's protein target and KA prescription.

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**0.6 g/kg**

LPD Protein Target

**0.3 g/kg**

VLPD Protein Target

**30–35 kcal/kg**

Calorie Target

**1 tab/5 kg**

KA Dose (Ketosteril)

## 1 Your Daily Targets by Body Weight

Body Weight	LPD Protein (0.6 g/kg)	VLPD Protein (0.3 g/kg)	Calories (30–35 kcal/kg)	KA Tablets (1 tab / 5 kg)
40 kg	24 g/day	12 g/day	1,200–1,400 kcal	8 tabs/day
50 kg	30 g/day	15 g/day	1,500–1,750 kcal	10 tabs/day
60 kg	36 g/day	18 g/day	1,800–2,100 kcal	12 tabs/day
70 kg	42 g/day	21 g/day	2,100–2,450 kcal	14 tabs/day
80 kg	48 g/day	24 g/day	2,400–2,800 kcal	16 tabs/day

### ⚠ Calorie Target Is NOT Optional

If you eat too few calories, your body burns KA tablets for energy — making them completely useless. Fill calorie gaps with rice, kamote, cassava, and cooking oil. Your protein limit does NOT mean eating less food; it means replacing protein-dense foods with calorie-dense, low-protein ones.

## 2 LPD vs. VLPD — What Each Looks Like on a Filipino Plate

### LPD — Low Protein Diet (0.6 g/kg)

CKD Stage 3b–4 · eGFR 15–44 mL/min

**Typical day (60 kg patient):** 1–2 eggs or 1 small fish fillet per day, 3–4 cups of rice, generous vegetables, cooking oil freely, and KA tablets with every meal.

**Protein moment per meal:** roughly 10–14 g per meal (1 egg = 6 g, 60 g bangus = 12 g). Still recognizable as a meal with visible protein food.

**Key challenge:** Hitting calorie target is harder than hitting protein limit. Add oil to every dish.

### VLPD — Very Low Protein Diet (0.3 g/kg)

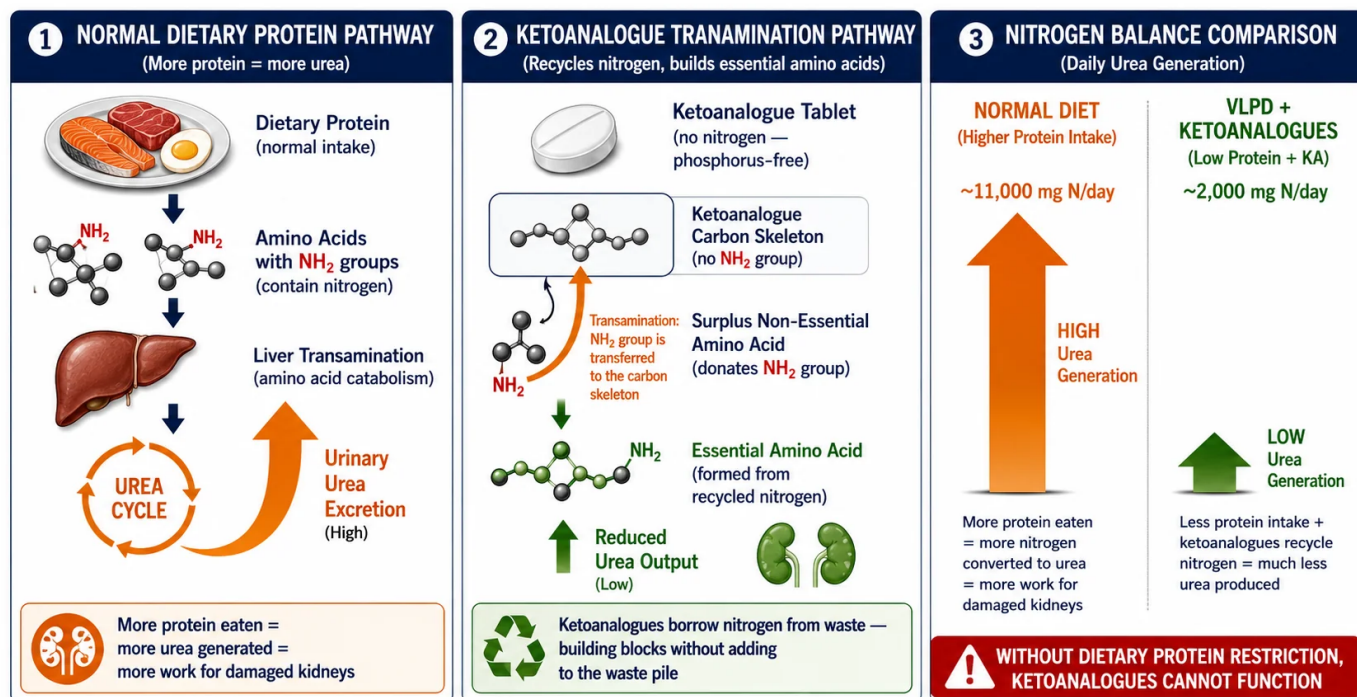
CKD Stage 4–5 · eGFR <30 · Garneata 2016 Protocol

**Typical day (60 kg patient):** 1 whole egg (or just 1 egg white) + a tiny cube of tofu — that's it for protein food. Everything else is rice, cassava, gabi, kamote, and cooking oil.

**This is a radical restriction:** about 90% of the plate is carbohydrate and fat. KA tablets supply the essential amino acids your body normally gets from protein food.

**Key challenge:** Social eating and family meals are very difficult. Requires serious commitment and dietitian support.

HOW KETOANALOGUES WORK — THE TRANSAMINATION MECHANISM



**KEY TAKEAWAY:** Ketoanalogues provide carbon skeletons. They **ACCEPT** nitrogen from non-essential amino acids to **BUILD** essential amino acids — reducing urea production when protein intake is restricted.

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Fig. 1 — On a normal Filipino diet (left), protein breakdown produces excess urea that damaged kidneys cannot excrete. On VLPD + ketoanalogues (right), nitrogen is recycled through transamination to build essential amino acids — without adding new nitrogen. *This mechanism only works when dietary protein is simultaneously restricted to 0.3 g/kg/day.*

**Who follows LPD?** Patients with CKD stage 3b–4 (eGFR 15–44). Rice contributes ~4 g protein per cup — always count this. Take KA tablets with meals, not on empty stomach. Split doses across all 3 main meals.

**40 kg Patient — LPD Target: 24 g protein/day · ~1,300 kcal · 8 KA tablets/day**

Meal / Time	Food & Preparation	Prot	kcal	KA
Breakfast 7AM	1 whole egg (scrambled in 1 tsp oil) + ¾ cup rice + sayote sautéed in oil	~9 g	~340	2 tabs
Lunch 12PM	30 g bangus (steamed) + 1 cup rice + pechay sautéed in oil	~10 g	~295	3 tabs
Snack 3PM	1 medium kamote (boiled) + ½ cup sago in sugar + 1 saba banana	~3 g	~305	—
Dinner 7PM	50 g firm tofu (fried in oil) + ¾ cup rice + kangkong sautéed in oil	~9 g	~330	3 tabs
<b>Daily Total (approximate)</b>		<b>≈31 g</b>	<b>≈1,270 kcal</b>	<b>8 tabs</b>

Tip: Add 1–2 tbsp coconut oil to any dish to close the calorie gap. Calorie shortfall is common at 40 kg — use oil liberally.

**50 kg Patient — LPD Target: 30 g protein/day · ~1,600 kcal · 10 KA tablets/day**

Meal / Time	Food & Preparation	Prot	kcal	KA
Breakfast 7AM	1 egg (fried in oil) + 1 cup rice + ampalaya sautéed in oil	~10 g	~375	2 tabs
Lunch 12PM	40 g tilapia (steamed) + 1 cup rice + sayote in oil	~12 g	~330	4 tabs
Snack 3PM	1 cup boiled gabi + 1 saba banana + sugarcane juice (1 cup)	~4 g	~375	—
Dinner 7PM	75 g tofu (tokwa't gulay style) + 1 cup rice + pechay in oil	~10 g	~370	4 tabs
<b>Daily Total (approximate)</b>		<b>≈36 g</b>	<b>≈1,450 kcal</b>	<b>10 tabs</b>

Tip: Add an evening snack of 1 cup sago + 1 tbsp sugar or ½ cup sweet corn to reach calorie target (~150–200 kcal extra).

**60 kg Patient — LPD Target: 36 g protein/day · ~1,950 kcal · 12 KA tablets/day**

Meal / Time	Food & Preparation	Prot	kcal	KA
Breakfast 7AM	2 egg whites + 1 yolk (scrambled) + 1 cup rice + kamote + kangkong + 1 tbsp oil	~13 g	~440	3 tabs
Lunch 12PM	60 g bangus (baked) + 1½ cups rice + sayote in coconut oil	~16 g	~520	4 tabs
Snack 3PM	1 cup boiled cassava + 1 banana + coconut water (1 cup, no added sugar)	~3 g	~320	—
Dinner 7PM	50 g tokwa (fried in oil) + 1 cup rice + pechay in oil	~9 g	~350	5 tabs
<b>Daily Total (approximate)</b>		<b>≈41 g</b>	<b>≈1,630 kcal</b>	<b>12 tabs</b>

Tip: Calorie shortfall is common at 60 kg. Add an extra cup of rice at lunch or increase cooking oil to 1½–2 tbsp per dish to reach the 1,950 kcal target.

**70 kg Patient — LPD Target: 42 g protein/day · ~2,275 kcal · 14 KA tablets/day**

Meal / Time	Food & Preparation	Prot	kcal	KA
Breakfast 7AM	2 whole eggs (sinangag-style with garlic + 1 tbsp oil) + 1 cup rice + boiled kamote	~14 g	~490	4 tabs
Lunch 12PM	70 g tilapia (paksiw) + 1½ cups rice + boiled upo + 1 tbsp canola oil	~18 g	~540	5 tabs
Snack 3PM	1 cup boiled gabi + 1 ripe mango (medium) + 1 cup pandan sago	~4 g	~430	—
Dinner 7PM	100 g firm tofu (ginisang tofu) + 1 cup rice + kangkong + 1 tbsp oil	~12 g	~420	5 tabs
<b>Daily Total (approximate)</b>		<b>≈48 g</b>	<b>≈1,880 kcal</b>	<b>14 tabs</b>

Tip: Still ~400 kcal short of target. Add an evening snack of ½ cup cassava + sago. Consider using 4 cups rice total across the day, and 1½ tbsp oil per cooked dish.

**80 kg Patient — LPD Target: 48 g protein/day · ~2,600 kcal · 16 KA tablets/day**

Meal / Time	Food & Preparation	Prot	kcal	KA
Breakfast 7AM	2 whole eggs (tortang talong style + 1 tbsp oil) + 1½ cups rice + boiled kamote	~16 g	~570	4 tabs
Lunch 12PM	80 g bangus sinigang (sampalok base, kangkong & okra, no patis) + 1½ cups rice + 1 tbsp oil	~20 g	~590	5 tabs
Snack 3–4PM	1 cup boiled cassava + 2 tbsp coconut cream + 1 cup sago in sugar	~3 g	~490	—
Dinner 7PM	100 g tokwa (adobo-style, no soy sauce) + 1 cup rice + boiled upo + 1 tbsp oil	~13 g	~460	7 tabs
<b>Daily Total (approximate)</b>		<b>≈52 g</b>	<b>≈2,110 kcal</b>	<b>16 tabs</b>

Tip: 80 kg patients have the largest calorie gap (~500 kcal). Add a morning snack (1 cup corn + 1 tsp oil = ~200 kcal) and increase cooking oil to 2 tbsp/dish. Consider adding an evening sago or gulaman dessert.

**⚠ KA Tablets — Critical Reminders for LPD Patients**

- **Always take with food, never on an empty stomach.** KA tablets are absorbed alongside dietary protein; taking them fasting reduces effectiveness.
- **Split doses across all main meals** — do not take all tabs at once. Morning, noon, and evening doses are standard.
- **Do not miss calorie targets.** A calorie-deficient diet forces the body to use KA tablets as fuel, negating their benefit for urea reduction.
- **Protein values include rice.** Each cup of cooked rice ≈ 4 g protein. At 3 cups/day = 12 g from rice alone — budget the rest for egg/fish/tofu.

**Who follows VLPD?** CKD stage 4–5 (eGFR <30). This is the protocol proven in the landmark Garneata 2016 trial. VLPD is mostly carbohydrates and fats — about 1 egg or a tiny piece of fish per day. Cassava and kamote are your best calorie friends. A registered renal dietitian is strongly recommended before starting.

#### 40 kg Patient — VLPD Target: 12 g protein/day · ~1,300 kcal · 8 KA tablets/day

Meal / Time	Food & Preparation	Prot	kcal	KA
<b>Breakfast 7AM</b>	1 egg white only (scrambled in 1 tsp oil) + ¾ cup rice + 1 medium kamote (boiled)	~7 g	~315	2 tabs
<b>Lunch 12PM</b>	¾ cup rice + 1 cup boiled gabi + sautéed sayote in 1 tbsp oil (no protein food)	~3 g	~370	3 tabs
<b>Snack 3PM</b>	1 cup sago in sugar syrup + 1 ripe banana	~1 g	~280	—
<b>Dinner 7PM</b>	25 g firm tofu (lightly fried in 1 tsp oil) + ½ cup rice + kangkong	~4 g	~245	3 tabs
<b>Daily Total (approximate)</b>		≈15 g	≈1,210 kcal	8 tabs

*Tip: 12 g/day means almost no visible protein food — just 1 egg white and a tiny cube of tofu. Replace some rice with cassava to reduce background protein (~2 g/cup less).*

#### 50 kg Patient — VLPD Target: 15 g protein/day · ~1,625 kcal · 10 KA tablets/day

Meal / Time	Food & Preparation	Prot	kcal	KA
<b>Breakfast 7AM</b>	1 whole egg (poached) + ½ cup rice + 1 medium kamote + ampalaya in 1 tbsp oil	~9 g	~415	3 tabs
<b>Lunch 12PM</b>	¾ cup rice + 1 cup boiled gabi + boiled okra + 1 tbsp canola oil (no protein food)	~4 g	~430	3 tabs
<b>Snack 3PM</b>	1 cup cassava (plain boiled) + 1 cup sugarcane juice	~1 g	~360	—
<b>Dinner 7PM</b>	25 g firm tofu (fried in 1 tsp oil) + ½ cup rice + sayote	~4 g	~290	4 tabs
<b>Daily Total (approximate)</b>		≈18 g	≈1,495 kcal	10 tabs

*Tip: Add an evening snack of boiled corn or sweetened sago/gulaman for an extra 150–200 kcal to close the calorie gap.*

#### 60 kg Patient — VLPD Target: 18 g protein/day · ~1,950 kcal · 12 KA tablets/day (Reference Weight — Most Clinical Trial Data)

Meal / Time	Food & Preparation	Prot	kcal	KA
<b>Breakfast 7AM</b>	1 whole egg (sunny side up, 1 tbsp oil) + 1 cup rice + 1 medium kamote	~10 g	~475	3 tabs
<b>Lunch 12PM</b>	1 cup rice + 1 cup cassava + sautéed sayote & kangkong in 1 tbsp oil (no protein food)	~5 g	~490	4 tabs
<b>Snack 3PM</b>	1 cup boiled gabi + 1 ripe banana + 1 cup sago in buko juice	~3 g	~400	—
<b>Dinner 7PM</b>	25 g tokwa (fried in 1 tsp oil) + ¾ cup rice + pechay	~5 g	~310	5 tabs
<b>Daily Total (approximate)</b>		≈23 g	≈1,675 kcal	12 tabs

*Tip: Add cooking oil generously (2 tbsp/cooked dish) to each vegetable and starch. Include an evening sago snack (+180 kcal) to approach the 1,950 kcal target.*

**70 kg Patient — VLPD Target: 21 g protein/day · ~2,275 kcal · 14 KA tablets/day**

Meal / Time	Food & Preparation	Prot	kcal	KA
Breakfast 7AM	1 whole egg (scrambled in 1 tbsp oil) + 1 cup rice + 1 cup boiled gabi + ampalaya	~11 g	~545	4 tabs
Lunch 12PM	1 cup rice + 1 cup cassava + 1 cup sayote + 1 tbsp canola oil (no protein food)	~5 g	~490	4 tabs
Snack 3PM	1 cup sweet corn (nilagang mais) + 1 cup sago in sugar + 1 banana	~4 g	~480	—
Dinner 7PM	50 g firm tofu (tokwa adobo style) + ¾ cup rice + kangkong + 1 tsp oil	~6 g	~350	6 tabs
<b>Daily Total (approximate)</b>		<b>≈26 g</b>	<b>≈1,865 kcal</b>	<b>14 tabs</b>

Tip: ~400–580 kcal gap remains. Add 2 tbsp oil to every cooked dish, a morning snack (sago/cassava), and an evening gulaman to approach the 2,275 kcal target.

**80 kg Patient — VLPD Target: 24 g protein/day · ~2,600 kcal · 16 KA tablets/day**

Meal / Time	Food & Preparation	Prot	kcal	KA
Breakfast 7AM	1 whole egg (poached) + 1 cup rice + 1 large kamote + pechay in 1 tbsp oil	~12 g	~570	4 tabs
Lunch 12PM	1 cup rice + 1 cup boiled gabi + ½ cup cassava + sayote in 2 tbsp oil (no protein food)	~6 g	~560	5 tabs
Snack 3–4PM	1 cup sweet corn + 1 cup sago in sugar + 1 ripe mango (medium)	~5 g	~510	—
Dinner 7PM	50 g firm tofu (fried in 1 tbsp oil) + 1 cup rice + kangkong	~7 g	~440	7 tabs
<b>Daily Total (approximate)</b>		<b>≈30 g</b>	<b>≈2,080 kcal</b>	<b>16 tabs</b>

Tip: 80 kg VLPD requires a dietitian. Add morning snack (cassava + oil) and evening snack (sago) plus 2 tbsp oil per dish daily to approach the 2,600 kcal goal.

**Filipino Food Protein & Calorie Reference**

Food	Serving	Prot	kcal	Food	Serving	Prot	kcal
<b>PROTEIN FOODS</b>				<b>VEGETABLES (LOW PROTEIN)</b>			
Whole egg	1 large	6 g	70–80	Kangkong (cooked)	1 cup	2 g	27
Egg white only	1 white	3.5 g	17	Sayote (cooked)	1 cup	1 g	38
Bangus (milkfish)	100 g cooked	20 g	148	Pechay / bok choy	1 cup cooked	1.5 g	20
Tilapia	100 g cooked	18 g	128	Ampalaya (bitter melon)	1 cup cooked	1 g	24
Firm tofu (tokwa)	100 g	9 g	76	Okra (cooked)	1 cup	1.5 g	33
Firm tofu (tokwa)	25 g (small cube)	2.3 g	19	Upo / bottle gourd	1 cup cooked	0.5 g	22
<b>STAPLE CARBOHYDRATES</b>				<b>FATS &amp; OILS (ZERO TO MINIMAL PROTEIN)</b>			
White rice (cooked)	1 cup (180 g)	4 g	200–210	Coconut oil	1 tbsp (14 g)	0 g	120
Kamote (boiled)	1 medium (150 g)	2 g	100–110	Canola oil	1 tbsp (14 g)	0 g	120
Gabi / taro (boiled)	1 cup (132 g)	2 g	185	Coconut cream (gata)	2 tbsp (30 mL)	0.5 g	100
Cassava (boiled)	1 cup (206 g)	1 g	165	Plain white sugar	1 tsp (4 g)	0 g	16
Sweet corn (boiled)	1 cup kernels	4 g	130	<b>BEVERAGES</b>			
Sago (cooked in water)	1 cup	0 g	180	Sugarcane juice	1 cup (240 mL)	0.5 g	120
Saba banana (boiled)	1 medium	1 g	90	Buko (coconut water)	1 cup (240 mL)	1 g	46
Ripe mango	1 medium	1 g	100	Gulaman (plain jelly)	1 cup	0 g	60–80

FILIPINO PROTEIN PORTIONS — LPD VS VLPD ON A REAL PLATE

# KETOANALOGUE + FILIPINO PROTEIN PORTIONS

Goal: Enough protein for your body, not more.

DAILY PROTEIN TARGETS  
(Per kg body weight)

LPD

0.6 g/kg/day  
+ Ketoanalogues

VLPD

0.3 g/kg/day  
+ Ketoanalogues

EXAMPLE CALCULATION  
(60 kg person)

LPD: 0.6 g × 60 = 36 g/day

VLPD: 0.3 g × 60 = 18 g/day

FILIPINO PROTEIN PORTION GUIDE (Cooked Weight)

TILAPIA	BANGUS	MANOK (Skinless)	ITLOG	TOKWA	GULAY + KANIN
1 oz (30 g)	1 oz (30 g)	1 oz (30 g)	1 large (50 g)	1/2 cup (60 g)	1/2 cup rice + 1 cup gulay
6–7 g protein	6–7 g protein	6–7 g protein	6 g protein	6 g protein	~2 g protein

HOW KETOANALOGUES HELP

Surplus Amino Acid (from food) → Ketoanalogue (no nitrogen) → Essential Amino Acid (formed, with NH<sub>2</sub>)

They provide carbon skeletons (no nitrogen).

They borrow nitrogen from waste amino acids.

Result: Essential amino acids formed.

SAMPLE ONE-DAY MENU

LPD (0.6 g/kg/day)

Breakfast: 1 egg + 1/2 cup rice + gulay

Lunch: 1 oz tilapia + 1/2 cup rice + gulay

Dinner: 1 oz manok + 1/2 cup rice + gulay

~36 g protein/day

VLPD (0.3 g/kg/day)

Breakfast: 1/2 egg + 1/2 cup rice + gulay

Lunch: 1/2 oz isda + 1/2 cup rice + gulay

Dinner: 1/2 oz manok + 1/2 cup rice + gulay

~18 g protein/day

KETOANALOGUE DOSE (Per kg Body Weight)

Body Weight	LPD (0.6 g/kg/day)	VLPD (0.3 g/kg/day)
40 kg	4–6 tablets/day	6–9 tablets/day
50 kg	5–7 tablets/day	7–11 tablets/day
60 kg	6–9 tablets/day	9–13 tablets/day
70 kg	7–10 tablets/day	10–15 tablets/day
80 kg	8–11 tablets/day	11–17 tablets/day
90 kg	9–12 tablets/day	13–20 tablets/day

Take ketoanalogues with meals (do not take on empty stomach).

PRACTICAL TIPS

- Weigh your portions. Use a kitchen scale.
- Read food labels. Watch hidden proteins.
- Fill plate with low-protein foods: gulay, prutas, low-protein rice, fruits.
- Stay hydrated. Follow your fluid allowance.
- Follow your dietitian's plan. Do not self-increase protein.

LOW-PROTEIN FOOD FRIENDS

Gulay

Prutas

Sayote

Talong

Calabasa

Labanos

Low-protein rice

Pancit miki

Kamote

Remember:

Right amount of protein

Ketoanalogues with meals

Healthy, low-protein food choices

Better nutrition. Protected kidneys.

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Fig. 2 — What your daily protein allowance actually looks like on a Filipino plate. LPD (left): roughly 1 egg + 60 g bangus + 50 g tofu across the whole day, plus 3 cups of rice for calories. VLPD (right): only 1 egg or a small cube of tofu — the rest of the plate is rice, kamote, cassava, gabi, vegetables, and cooking oil. Both diets require far more cooking oil than a typical Filipino meal to prevent muscle wasting.

### Calorie Booster Foods — High Energy, Low Protein

<p><b>Cooking Oils</b> 120 kcal/tbsp · 0 g protein</p> <p>Add to every dish. Coconut oil or canola oil. The single easiest calorie booster — mandatory on LPD/VLPD.</p>	<p><b>Kamote (Sweet Potato)</b> ~100 kcal/medium · 2 g protein</p> <p>Boil and eat with oil. Very low protein. Good mid-morning or afternoon snack with oil or coconut cream.</p>	<p><b>Cassava</b> 165 kcal/cup · 1 g protein</p> <p>Best low-protein starch. Lower protein than rice. Boil and eat plain or with gata. Good rice substitute.</p>	<p><b>Gabi (Taro)</b> 185 kcal/cup · 2 g protein</p> <p>High calorie starch with very low protein. Good in soups or with oil. Boil until soft.</p>
<p><b>Sago</b> 180 kcal/cup · 0 g protein</p> <p>Perfect calorie booster — pure carbohydrate, zero protein. Sweeten with sugar. Use as snack or dessert.</p>	<p><b>Ripe Banana</b> ~90 kcal · 1 g protein</p> <p>Good snack. Watch potassium if your nephrologist says your K+ is elevated. Limit to 1 per day if unsure.</p>	<p><b>Coconut Cream (Gata)</b> ~100 kcal/2 tbsp · &lt;1 g protein</p> <p>Add to cassava, kamote, or sago desserts. Very low protein. Rich in saturated fat — use in moderation.</p>	<p><b>Plain Sugar / Syrup</b> 16 kcal/tsp · 0 g protein</p> <p>Add to sago, gulaman, or beverages. Zero protein. For diabetics — discuss blood sugar targets with your doctor first.</p>

### Foods to Avoid → Safer Alternatives

Avoid	Replace With
Red meat, pork, beef (large portions)	Bangus, tilapia, or tofu (small measured portions)
Processed meats (tocino, longganisa, hotdog)	1 egg or small piece of white fish
Dairy (milk, cheese, condensed milk)	Kamote, cassava, sago with oil
Fast food, instant noodles (high Na + P)	Home-cooked rice + vegetables + measured protein
Dried fish (tuyo, daing) — very high Na	Fresh fish steamed without salt
Bagoong, patis (fish sauce)	Calamansi + garlic for flavor

#### ⚠ Calcium Warning — KA Tablets

Never take calcium-containing antacids (Tums, Kremil-S) without checking with your nephrologist. Each Ketosteril tablet already contains calcium — adding antacids raises the risk of hypercalcemia.

### Adherence Tips

- 1 Take KA **WITH** — never on empty stomach. Split across all 3 main tablets **meals** meals.
- 2 Cook your protein portion separately from the family's — use a small kitchen scale.
- 3 Replace 1 cup rice with cassava or kamote daily (saves 3–4 g protein).
- 4 Add 1–2 tbsp cooking oil to every dish — this is mandatory, not optional, for hitting calorie targets.
- 5 Weigh yourself every morning. Act if you lose >1 kg in one week.
- 6 Plan your "protein moment" the night before — decide which meal gets the egg or fish.
- 7 At social events: eat rice and vegetables only; decline the ulam politely. Say "kidney diet."
- 8 Track your BUN (blood urea nitrogen) — a falling BUN is the sign your diet is working.
- 9 Weekly family diet audit with the person who cooks — they must understand the rules too.
- 10 If you slip on a meal, **NEXT MEAL** — not next Monday. One slip does not restart at the ruin the diet.

### Seek Medical Attention Immediately If You Experience:

- Nausea, vomiting, or excessive thirst — may indicate **hypercalcemia** (too much calcium from KA tablets)
- Confusion, drowsiness, or muscle weakness — possible electrolyte imbalance
- >2 kg unintentional weight loss in 1 month — protein-calorie malnutrition
- Bone or joint pain, or eye redness — signs of calcium-phosphate deposition (metastatic calcification)
- BUN rising despite correct KA use and protein restriction — may need diet reassessment or dialysis evaluation