

# Menu plans for children with Chronic Kidney Disease (CKD) based in Malaysia

These menu plans have been devised by dietitians  
and nephrologists based in Malaysia and are for  
Healthcare Professional use.

For Healthcare Professionals  
practising in Malaysia

The following sample menu plans are designed to help practitioners provide dietary advice for children with CKD. They should be adapted for the individual child depending on their growth, biochemistry and stage of CKD.

The following measurements are used in these menu plans:

scoop, as provided with formula or supplement

Tbsp, tablespoon, 15 ml

tsp, teaspoon, 5 ml

#### Menu plan for 3 month old, weight: 5 kg

Products	Dosage	Volume	Energy (kcal)	Protein (g)	Protein: Energy ratio	Sodium (mg)	Potassium (mg)	Phosphate (mg)
Infant formula	20 scoops		428	9.0		108.0	360.0	190.0
Glucose polymer	4 scoops		32					
MCT oil	4 ml		32					
add water up to	720 ml							
<b>Total</b>		720 ml	492	9.0	7.2%	108.0	360.0	190.0
Per kg body weight		144	98	2.0		21.6	72.0	38.0

Mix all the products and add water up to 720 ml, then divide by 8 bottles = 90 ml/bottle

**Aim for the top end of range for SDI energy: 98 kcal/kg/day; SDI protein: 8-12 g/day**

\*39-117 mg potassium/kg/day for infants & young children is considered a low potassium intake

SDI phosphate 0- <4 months: 120 mg/day

\*KDOQI Work Group. KDOQI Clinical Practice Guideline for Nutrition in Children with CKD: 2008 update. Executive summary. Am J Kidney Dis. 2009 Mar;53(3 Suppl 2):S11-104. doi: 10.1053/j.ajkd.2008.11.017.

The partial replacement of standard infant formula with a specialised renal-specific low potassium formula will further reduce potassium intake, if necessary.

### Menu plan for 6 month old, weight: 7 kg

Meal (foods should be pureed/mashed)	Food	Portion	Weight (g)	Energy (kcal)	Protein (g)	Sodium (mg)	Potassium (mg)	Phosphate (mg)
<b>Breakfast</b>	Rice porridge	½ cup	75	33	0.6	1.5	1.5	6.5
	Spinach	1 Tbsp	6	7	0.7	7.0	195.0	13.0
	Carrot	1 Tbsp	10	2	0.1	1.6	10.3	1.7
	Cooking oil	1 tsp	5	45				
	*Special dilution infant formula	100 ml		68	1.0	13.5	45.0	23.7
<b>Morning snack</b>	Banana	1 Tbsp	20	20	0.3	2.0	68.0	0.5
	*Special dilution infant formula	100 ml		68	1.0	13.5	45.0	23.7
<b>Lunch</b>	Rice porridge	½ cup	75	33	0.6	1.5	1.5	6.5
	Green choy sum	1 Tbsp	6	2	0.1	0.7	24.0	3.6
	Chicken	1 tsp	10	15	1.8	4.2	31.0	20.0
	Cooking oil	1 tsp	5	45				
<b>Afternoon snack</b>	Papaya	1 Tbsp	8	3	0.1	0.2	3.1	0.5
	*Special dilution infant formula	100 ml		68	1.0	13.5	45.0	23.7
<b>Dinner</b>	Rice porridge	½ cup	75	33	0.6	1.5	1.5	6.5
	Kale, Chinese	1 Tbsp	6	14	0.9	6.0	118.0	1.5
	Fish	1 tsp	10	10	1.9	6.0	29.0	20.0
	Cooking oil	1 tsp	5	45				
<b>Supper</b>	*Special dilution infant formula	100 ml		68	1.0	13.5	45.0	23.7
<b>Total</b>				575	11.7	86.2	662.9	175.1
Per kg body weight				82	1.7	12.3	94.7	25.0

*Special dilution infant formula								
Infant formula	10 scoops			214	4.3	54.0	180.0	95.0
Glucose polymer	4 scoops			32				
MCT oil	3 ml			24				
add water up to	400 ml							
divide into 4 x 100 ml bottles	100 ml			68	1.0	13.5	45.0	23.7

**Aim for the top end of the range for SDI energy: 82 kcal/kg/day; SDI protein: 9-14 g/day**

\*\*39-117 mg potassium /kg/day for infants & young children is considered a low potassium intake

SDI phosphate 4- <12 months: 275-420 mg/day

\*\*KDOQI Work Group. KDOQI Clinical Practice Guideline for Nutrition in Children with CKD: 2008 update.

Executive summary. Am J Kidney Dis. 2009 Mar;53(3 Suppl 2):S11-104. doi: 10.1053/j.ajkd.2008.11.017.

**The partial replacement of standard infant formula with a specialised renal-specific low potassium formula will further reduce potassium intake, if necessary.**

### Menu plan for 8-11 month old, weight 8 kg

Meal (foods should be minced/flaked)	Food	Portion	Weight (g)	Energy (kcal)	Protein (g)	Sodium (mg)	Potassium (mg)	Phosphate (mg)
<b>Breakfast</b>	Cooked white rice	½ cup	23	30	0.5	1.4	1.4	10.0
	Chicken	1 tsp	3	8	0.8	15.0	9.0	5.5
	Carrot	1 Tbsp	10	4	0.1	11.9	13.6	2.7
	Spinach	1 Tbsp	5	2	0.2	0.6	27.0	4.6
	Cooking oil	1 tsp	5	45				
	*Special dilution Infant formula	130 ml		89	1.4	16.4	70.5	26.7
<b>Morning snack</b>	Banana	½ whole	35	35	0.5	3.5	119.0	0.5
	Plain yogurt	1 Tbsp	15	9	1.0	10.0	35.0	16.9
<b>Lunch</b>	Cooked white rice	½ cup	23	30	0.5	1.4	1.4	10.0
	Tomato	¼ whole	7	2	0.1	1.1	9.0	2.0
	Broccoli	1 tsp	3	1	0.1	0.4	6.8	2.0
	Chicken	1 tsp	3	8	0.8	15.0	9.0	5.5
	Cooking oil	2 tsp	10	90				
<b>Afternoon snack</b>	Papaya	1 tsp	5	2	0.1	0.1	2.0	0.3
	*Special dilution Infant formula	130 ml		89	1.4	16.4	70.5	26.7
<b>Dinner</b>	Cooked white rice	½ cup	23	30	0.5	1.4	1.4	10.0
	Green bean	1 whole	5	2	0.1	1.7	3.8	0.3
	Fish	1 tsp	5	5	1.0	3.7	8.5	10.9
	Tomato	¼ whole	7	2	0.1	1.1	9.0	2.0
	Carrot	1 Tbsp	10	4	0.1	11.9	13.6	2.7
	Cooking oil	2 tsp	10	90				
<b>Supper</b>	*Special dilution infant formula	130 ml		89	1.4	16.4	70.5	26.7
<b>Total</b>				620	9.3	112.8	410.5	139.2
Per kg body weight				78	1.2	14.1	51.3	17.4

#### \*Special dilution infant formula

Infant formula	9 scoops		202	4.2	49.1	211.5	80.1
Glucose polymer	4 scoops		32				
MCT oil	4 ml		32				
add water up to	390 ml						
<b>Total</b>			266	4.2	49.1	211.5	80.1
divide into 3 x 130 ml bottles	130 ml		89	1.4	16.4	70.5	26.7

**Aim for the top end of SDI range ie 82 kcal/kg/day; SDI protein: 9-15 g/day**

\*\*39-117 mg potassium/kg/day for infants & young children is considered a low potassium intake

SDI phosphate 8-12 months: 275-420mg/day

\*\*KDOQI Work Group. KDOQI Clinical Practice Guideline for Nutrition in Children with CKD: 2008 update.

Executive summary. Am J Kidney Dis. 2009 Mar;53(3 Suppl 2):S11-104. doi: 10.1053/j.ajkd.2008.11.017.

**The partial replacement of standard infant formula with a specialised renal-specific low potassium formula will further reduce potassium intake, if necessary.**

### Menu plan for 1-3 year old, weight: 13kg

Meal	Food	Portion	Weight (g)	Energy (kcal)	Protein (g)	Sodium (mg)	Potassium (mg)	Phosphate (mg)
Breakfast	Infant formula 120ml + 4 scoops glucose polymer	120ml		112	1.6	42.8	85.3	34.4
	Fried rice vermicelli (bihun)	1 bowl	102	205	3.8	155.3	80	52
Morning snack	Apple	½ whole	53	26	0.1	1.5	38	4
Lunch	Cooked white rice	¾ cup	76	99	1.8	5	5	20
	Chicken kurma with gravy	1 piece	125	179	12.7	100	99	201
	Stir fried french beans with vegetable oil	½ cup	58	66	1.35	20	43.5	3.5
Afternoon snack	Steamed rice cake (apam kampung)	1 piece	27	52	0.6	228		7
Dinner	Fried rice	¾ cup	76	99	1.8	5	5	20
	Chicken	1 Tbsp	10	15	1.8	4.2	31.3	65
	Vegetable oil	3 tsp	12	108		5		
Supper	Infant formula 120ml + 4 scoops glucose polymer	120ml		112	1.6	42.8	85.3	34.4
<b>Total</b>				1081	27.8	612.9	607.4	459.3
Per kg body weight				83	2.1	47.2	46.7	35.3

**Aim for the top end of SDI range: 82 kcal/kg/day; SDI protein: 11-15 g/day**

\*39-117 mg potassium/kg/day for infants & young children is considered a low potassium intake

SDI phosphate 1-3 years old: 250-500mg/day

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**The use of a specialised renal-specific low potassium formula, instead of standard infant formula or whole cow's milk, allows a greater variety of food choices when potassium intake needs to be reduced.**

Menu plan for 4-6 year old, weight: 18 kg

Meal	Food	Portion	Weight (g)	Energy (kcal)	Protein (g)	Sodium (mg)	Potassium (mg)	Phosphate (mg)
Breakfast	Kuih keria	1 piece	38	90	1.0	30.9	62.4	22.4
	Infant formula 120 ml + 4 scoops glucose polymer	120 ml		112	1.6	42.8	85.3	34.4
	Cocoa powder	1 tsp	5	23	0.8	4.8	148.8	34
Morning snack	Sherbet	½ cup		139	1.1	44.4	92.6	38.6
Lunch	Cooked white rice	1 cup	100	130	2.3	6.2	6.2	25.7
	Egg, fried	½ piece	23	45	3.1	46.9	33.8	47.8
	Coconut gravy	3 Tbsp	43	118	1.2	5.9	169.5	44.7
	Stir fried vegetables (cauliflower and carrot)	¼ cup	70	46	0.9	27.2	135.4	21.6
	Red apple	1 whole	150	85	0.3	4.5	124	13.5
	Honey water	2 Tbsp	20	62		1	5.2	2.2
Afternoon tea	Kuih apam	1 piece	27	53	0.7	228		7.3
	Infant formula 120 ml + 4 scoops glucose polymer	120 ml		112	1.6	42.8	85.3	34.4
Dinner	Cooked flavoured rice, using margarine	1 cup	100	166	2.3	43.3	7.4	26.9
	Steam pomfret	½ match box size	15	15	3.1	8.6	33.9	35.6
	Olive oil	2 tsp		90				
	Stir fried spinach	¼ cup	40	23	1.2	28	186.4	22.4
	Kiwi fruit	1 whole	76	46	0.8	3.8	252.3	30.4
	Sugar	1 Tbsp	15	60		0.2	0.8	
<b>Total</b>				1415	22.0	569.3	1429.3	441.9
Per kg body weight				79	1.2	32	79	25

SDI energy 4-6 years old: 67-93 kcal/kg/day (boy) 64-90 kcal/kg/day (girl); SDI protein: 16-22 g/day

\*39-117 mg potassium/kg/day for children is considered a low intake

SDI phosphate 4-6 years old: 440-800 mg/day

Sodium allowance: 1-3 mmol/kg/day (23-69 mg/kg/day)

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The use of a specialised renal-specific low potassium formula, instead of standard infant formula or whole cow's milk, allows a greater variety of food choices when potassium intake needs to be reduced.

Menu plan for 7-9 year old, weight: 24 kg

Meal	Food	Portion	Weight (g)	Energy (kcal)	Protein (g)	Sodium (mg)	Potassium (mg)	Phosphate (mg)
Breakfast	White bread	2 slices	40	146	4.0	194.0	34.0	44.0
	Butter	½ Tbsp	7	53	0.1	43.0	2.0	2.0
Morning snack	Whole milk	1 glass (200 ml)		146	7.0	186	72	196
	Spring roll vegetable	2 pieces	84	226	3.0	150	130	
Lunch	Cooked white rice	1 cup	100	130	2.3	6.2	6.2	25.7
	Fried chicken (boneless)	1 matchbox size	40	113	8.9	64.0	118.0	249.0
	Steamed french bean	½ cup	41	19	0.8	3.0	31.0	19.0
	Watermelon	2 slices with skin	267	74		10.0	208.0	30.0
Afternoon tea	White bread	1 slice	20	73	2.0	97.0	17.0	22.0
	Butter	½ Tbsp	7	53	0.1	43.0	2.0	2.0
	Rose cordial	1 Tbsp in 200 ml water		48		1.0	1.0	
Dinner	Cooked flavoured rice, using margarine	1 cup	100	166	2.3	26.9	43.3	7.4
	Fried fish	1 piece	40	89	10.0	54.0	165.0	191.0
	Stirred fried cabbage	½ cup	44	10	0.8	7.0	96.0	17.0
	Papaya	½ slice without skin	79	28		2.0	31.0	6.0
Supper	Crackers	3 pieces	20	89	1.8	23.0	10.0	20.0
<b>Total</b>				1579	38.8	824.1	929.5	557.1
Per kg body weight				62	1.6	29.6	39.6	30.9

SDI energy 7-9 years old: 60-77 kcal/kg/day (boy) 56-75 kcal/kg/day (girl); SDI protein: 19-28 g /day

\*39-117 mg potassium/kg/day for children is considered a low intake

SDI phosphate 7-8 years old: 440-800 mg/day

Sodium allowance: 1-3 mmol/kg/day (23-69 mg/kg/day)

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The use of a specialised renal-specific low potassium formula, instead of standard infant formula or whole cow's milk, allows a greater variety of food choices when potassium intake needs to be reduced.

Menu plan for 10-12 year old, weight: 30 kg

Meal	Food	Portion	Weight (g)	Energy (kcal)	Protein (g)	Sodium (mg)	Potassium (mg)	Phosphate (mg)
Breakfast	Apple pancake	2 pieces	160	380	9.5	246.0	280.0	176.0
	Barley drink	200 ml (contains 1 Tbsp barley)		43	1.2		9.0	29.0
Lunch	Cooked white rice	1½ cups	168	218	3.8	10.8	43.6	10.8
	Chicken curry	1 small drumstick	80	162	10.0	93.4	153.6	187.2
	Stir fried mixed vegetables (cauliflower, carrot, string bean)	½ cup	80	71	2.1	48.0	135.0	35.0
	Vegetable oil	1 tsp (5ml)		45				
	Pear	1 medium size	100	66	0.4	2.0	78.0	12.0
	Plain water	1 glass (200 ml)						
Afternoon tea	Vanilla muffin	1 piece	53	225		210.0	35.0	
Dinner	Fried macaroni with chicken	1 cup	150	228	10.0	245.0	302.0	203.0
	Vegetable oil	1 tsp (5ml)		45				
	Guava	1 large slice without skin and seeds	110	51	1.2	25.0	32.0	17.0
	Plain water	1 glass (200 ml)						
Supper	Whole milk	1 glass (200 ml)		146	7.0	72.0	196.0	186.0
<b>Total</b>				1680	45.2	952.2	1264.2	856.0
Per kg body weight				56	1.5	32	42	28.5

SDI energy 11-12 years old: 48-63 kcal/kg/day (boy) 43-57 kcal/kg/day (girl); SDI protein: 34-42 g/day

\*39-117 mg potassium/kg/day for children is considered a low intake

SDI phosphate for 11-12 years old: 640-800 mg/day

Sodium allowance: 1-3 mmol/kg/day (23-69 mg/kg/day)

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