# LIVING WITH DIABETES <br> Meal Planning for Indian Cuisine <br> Meal Planning for Indian Cuisine 

## MFIORNN

# BASICS OF CARB COUNTING How You Can Manage Your Diabetes 



## How to Budget

Your Carbs

1. Discuss with your healthcare provider, certified diabetes care and education specialist or registered dietitian to determine an individualized meal plan with the appropriate amount of total carbohydrates you should consume per meal and snack.
2. Choose carbohydrates such as whole-grain breads and cereals, non-starchy vegetables and fresh fruits, and limit carbohydrates that are highly refined or have added sugars.
3. Do not skip meals and then try to "catch up" on intake at another meal or snack.
4. Be consistent in the total amount of carbohydrates consumed at each meal and snack from day to day to avoid to fluctuations in blood sugar values.
5. Be creative! Try healthy or low-carbohydrate versions of your favorite dishes.

## WHY COUNT CARBS?

- Carbohydrates, including grains, fruits, dairy foods and starchy vegetables, have a larger and more immediate effect on your blood sugar compared to protein or fat foods, which may have a delayed effect on blood sugar.
- Carbohydrate needs will vary depending on your activity level, metabolic makeup, weight and medications.
- Knowing the amount of carbohydrates in different foods will help you balance and interchange carbohydrate choices like $1 / 3$ cup of rice for $1 / 3$ cup of pasta or 1 chapati since all of them contain $\sim 15 \mathrm{~g}$ of carbohydrate per serving.
- Monitoring the amount and type of carbohydrates that you consume with each meal and snack allows you to avoid high or low blood sugar, identify trigger foods and adjust your insulin needs if necessary.



## HOW TO READ A NUTRITION FACTS LABEL

## START WITH THE SERVING SIZE!

- Look at the serving size and number of servings per container on the label.
- Decide how many servings you are going to consume, and then calculate your total intake of carbohydrates, fats and protein accordingly.


## DETERMINE THE TOTAL CARBOHYDRATE CONTENT OF 1 SERVING.

- Total carbohydrates include dietary fiber, sugars (naturally occurring or added) and starch. Note that the amount of dietary fiber and sugar are listed separately below the total carbohydrate content.
- Dietary fiber has been shown to reduce blood-sugar spikes after meals.
- A good source of fiber has 3-5g fiber per serving.
- Aim for 25-35 g of fiber per day.


## NEXT, REVIEW THE FAT, CHOLESTEROL, AND SODIUM.

- High fat, cholesterol, and sodium have been shown to impact heart health and may lead to an increased risk of heart disease.
- Avoid foods with high saturated and trans fat content.
- Aim for low-fat options that have $<3 \mathrm{~g}$ of fat per serving.
- Choose low-sodium food that have $<140 \mathrm{mg}$ per serving.



## Putting the Steps into Practice

Label reading with the above Nutrition Facts Label

## SERVING SIZE

1 serving of this product is $1 / 2$ cup.
If you consume 1 cup of this product, the nutrient intake will be:

- Total Carbohydrate $=30 \mathrm{~g}$
- Total Dietary Fiber $=4 \mathrm{~g}$
- Total Fat $=4 \mathrm{~g}$
- Total Sodium $=300 \mathrm{mg}$


## 5 HEALTHY NUTRITION TIPS

## 1. AVOID EMPTY CALORIES

The term "empty calorie" refers to foods or beverages that provide calories with little to no nutritional value. Candy, desserts and sweetened beverages such as soft drinks, sports drinks, fruit juice and alcohol contain "empty calories."

## 2. LIMIT SALT INTAKE

Less sodium is better! Diets high in sodium can raise blood pressure. Choose fresh fruits, vegetables and lean meat over canned or processed choices. Use caution when purchasing convenience and highly processed foods. The farther the food gets from its natural state, the more sodium it will contain.

## 3. COOKING METHOD MATTERS

To avoid added carbohydrates, fat and calories, opt for healthier cooking methods. Bake, broil, roast, air fry or grill meats and fish. Avoid breading, deep frying or adding sugar and flour to curries. Learning how to prepare and cook meals allows better control of the nutritional content of your food. Avoid tadka or tempering while making chutneys and curries, or do it with minimal oil. Steam vegetables or saute them in water, and add a little oil in the end while making sabji or mezhukkupuratti instead of sauteing in oil. Bake or air fry your favorite snacks such as samosa, pakora, kachori, vadas, etc.

## 4. FLAVOR WITH SPICE

Instead of flavoring food with fat, salt or sugar, use spices to add a range of flavors, from a hint of sweet to a kick of heat! Lean on flavor traditions such as turmeric, coriander powder or chili powder, and take an adventure with old-world flavors-garam masala, cumin, mint, green chili, cilantro, lemon juice, chaat masala, etc. Unlimited choices!

## 5. SWEETEN NATURALLY

Refined sugar, also known as white sugar, has been shown to have harmful effects on health. Like its counterpart, salt, less is best! This food additive is the obvious "empty food" due to its low nutritional value and calorie density of 16 calories and approximate 5 grams of carb/teaspoon. Try using fruit, such as dates or fruit puree, as a sweetener while baking.

## HEALTHY COOKING—REALISTIC REPLACEMENTS

If your recipe calls for...
Sour cream
Heavy cream
Butter, ghee or coconut oil while cooking
Butter, oil and sugar while baking
Rice flour
Starchy vegetables such as potato

## Try replacing with...

Greek plain yogurt
Ground almonds
Cooking spray, canola or olive oil (or limiting its use)
Sugar-free applesauce, banana puree, grape puree, black-bean puree, zucchini or avocado
Flour of green gram, besan, black gram (urad), millet, whole wheat, oats or almond
Non-starchy vegetables such as cauliflower or radish, or proteins such as tofu


## FOOD LISTS

## STARCHES/GRAINS

Each serving listed contains 15 grams of carbs. Choose whole-grain and high-fiber products.

| FOOD | SERVING SIZE | FOOD | SERVING SIZE |
| :---: | :---: | :---: | :---: |
| Adai | $3 / 4$ (6"diameter) | Millet, cooked | 1/3 cup |
| Aloo paratha | 3/4 (6"diameter) | Naan | 1/4 (8"x 2") |
| Appam | 3/4 (8"diameter) | Oats, cooked | 1/2 cup |
| Bagel | 1/4 Bagel | Oats, uncooked | 1/4 cup |
| Bajra roti | 1 (5" diameter) | Pancake 1 (4"diam | meter, 1/4" thick) |
| Barley, cooked | 1/2 cup | Paneer paratha 1/2 | 1/2 (5" diameter) |
| Biryani/pulao | 1/2 cup | Pasta | $1 / 3$ cup |
| Bisi bele bath | 1/3 cup | Pav | 1 small |
| Bread | 1 slice | Pesarattu | 1 (8" diameter) |
| Cereals (ready-to-eat) | Check serving size | Plain paratha | 1 ( $5^{\prime \prime}$ diameter) |
|  |  | Pita bread 1/2 | 1/2 (6" diameter) |
| Chapati / phulka | 1 (6" diameter) | Poha, cooked | 1/2 cup |
| Cornbread | $13 / 4$ " square | Puri | 1 (5" diameter) |
| Cracked wheat/dalia | $1 / 2$ cup cooked | Quinoa, cooked | 1/3 cup |
|  |  | Rava idli | 1 ( $3^{\prime \prime}$ diameter) |
| Croissant | 1 small | Rice, brown, cooked | d 1/3 cup |
| Dosa | 1 (10" diameter) | Rice, lemon | $1 / 3$ cup |
| English muffin | 1/2 | Rice, white, cooked | 1/3 cup |
| Granola | 1/4 cup | Rice, tamarind | 1/4 cup |
| Grits | 1/2 cup | Rice, wild, cooked | 1/2 cup |
| Hamburger / hot dog bun | 1/2 | Sorghum | 1/2 cup |
|  |  | Thalipeeth | 1 (4"diameter) |
| Idli | 1 (3" diameter) | Thepla | 1 (6" diameter) |
| Idiyappam | 1 (3" diameter) | Tortilla | 1 (6" diameter) |
| Khakhras | 1 (8" diameter) | Uttapam | 1 (4" diameter) |
| Khichdi | 1/2 cup | Upma, cooked | 1/2 cup |
| Matki usal | 1/2 cup | Waffle | 1 |

## STARCHY VEGETABLES

Each serving listed contains 15 grams of carbs. The carb count will vary depending on the ratio of starchy-to-non-starchy vegetables that you use in these curries. Serving size listed is for food described. Use non-starchy vegetables often in curry preparation.


## MILK/YOGURT (DAIRY)

Each serving contains approx.
12 grams of carbs.

| FOOD | SERVING SIZE |
| :--- | :--- |
| Chocolate milk <br> (fat-free or whole) | $1 / 2$ cup |
| Chai (made in <br> 1 cup of any milk) | 1 cup |
| Buttermilk (fat-free, <br> $1 \%, 2 \%$, or whole) | 1 cup |
| Dry milk powder <br> (nonfat) | $1 / 3$ cup |
| Evaporated milk | $1 / 2$ cup |
| Goat milk | 1 cup |
| Kefir | 1 cup |
| Ice cream <br> (no added sugar) | $1 / 2$ cup |
| Lassi (low-fat with <br> artificial sweetener) | 1 cup |
| Milk (fat-free, 1\%, $2 \%$ <br> or whole) | 1 cup |
| Soy milk (light or regular) | 1 cup |
| Yogurt plain <br> (low-fat or nonfat) | 1 cup |

## FRUITS

Each serving listed contains 15 grams of carbs. Like non-starchy vegetables, these are typically good sources of fiber, vitamins, and minerals.

| FOOD | SERVING SIZE |
| :--- | ---: |
| Apple | 1 small |
| Applesauce | $1 / 2$ cup |
| Banana | $1 / 2$ medium |
| Blackberries | $3 / 4$ cup |
| Blueberries | $3 / 4$ cup |
| Cantaloupe | $1 / 3$ melon or |
|  | 1 cup cubed |
| Cherries | 12 large |
| Dates | 3 |
| Figs | $11 / 2$ medium |
| Grapefruit | $1 / 2$ |
| Grapes | 17 small |
| Guava | 1 large |
| Jackfruit | $1 / 2$ cup |
| Jambu $/$ jamun | 6 |
| Kiwi | 1 |
| Mandarin | $3 / 4$ cup |
| Mango | $1 / 2$ small |
| Nectarine | 1 small |
| Orange | 1 small |
| Papaya | 1 cup cubed |
| Passionfruit | $1 / 2$ medium |
| Peach | 1 medium |
| Pear | $1 / 2$ large |
| Pineapple | $3 / 4$ cup |
| Plantain | $1 / 3$ cup |
| Plums | 2 small |
| Raisins | 2 Tbsp |
| Raspberries | 1 cup |
| Sapota | 1 medium |
| Strawberries | $11 / 4$ cup |
| Watermelon | $11 / 4$ cup cubed |
|  |  |

## SNACKS

Each serving listed contains 15 grams of carbs.

| FOOD | SERVING SIZE | FOOD | SERVING SIZE |
| :---: | :---: | :---: | :---: |
| Banana chips | 15 chips | Murukku | $11 / 2$ pieces |
| Bhelpuri | 2 Tbsp | Pakoda | 3 pieces |
| Bourbon biscuits | 2 pieces | Pani puri (empty) | 6 |
| Chivda | 2 Tbsp | Papad | 2 |
| Crispy Tea Rusk | 2 | Parle-G ${ }^{\text {TM }}$ | 4 pieces |
| Dahi vada | 1 piece | Popcorn | 3 cups |
| Dhokla | 1 1" square | Pretzels, mini | 10-12 |
| Digestive biscuit | 1 piece | Puffed rice | $11 / 4$ cup |
| Granola bar | Check label | Rice cakes | $24^{\prime \prime}$ pieces |
| Hummus | 1/3 cup | Sundal | 1/2 cup |
| Kachori | 1 piece | Sooji toast | 2 pieces |
| Khandvi | 2-3 pieces, $1^{\prime \prime}$ roll | Tamarind chutney | 2 Tbsp |
| Khari biscuits | 4 pieces | Vanilla wafers | 5 pieces |
| Ladoo | 1/2 small | Vegetable cutlet | 1 medium |
| Marie ${ }^{\text {Tm }}$ Biscuits | 4 biscuits | Vegetable samosa | 3/4 samosa <br> ( 8 " diameter) |

## PORTIONS



## SNACKS



1 granola bar


3 cups popcorn


4 Marie $^{\text {TM }}$ Biscuits


2 rusk crackers


- Each serving contains 15 grams of carbs.
- Choose carb snacks that contain lean protein or a healthy fat to reduce spikes in your blood sugar.


## FOOD LISTS

## FATS

Each servings contains 0 grams of carbs and 5 grams of fat. These do not raise blood sugar significantly. Use fats sparingly. Limit saturated ${ }^{\star * *}$ and trans fats, and use monounsaturated* and polyunsaturated** fats instead.


Sources: http://www.wsmclinic.com/formpdf/South-Asian-Carb-Counting-tool.pdf

## NON-STARCHY VECETABLES

Each serving from this list contains 5 grams of carbohydrate. A typical serving of non-starchy vegetable is 1 cup raw, $1 / 2$ cup cooked or $1 / 2$ cup juice. Non-starchy vegetables do not raise blood sugar as much as starchy vegetables do, so it is recommended that you eat more non-starchy vegetables. These have fewer calories and fewer carbs while still providing many essential vitamins and minerals.


Each of these servings contains fewer than 5 grams of carbs and fewer than 20 calories, so they do not count toward your total grams of carbs .

[^0]
## PROTEINS

Each serving listed has 4-8 grams of protein. For plant-based proteins and dairy items, carbohydrate content varies. Proteins listed below with * are approximately 15 grams of carbohydrate. Check label for specific values.

## PLANT-BASED PROTEINS

| FOOD SER | SERVING SIZE |
| :---: | :---: |
| Beans* | 1/2 cup |
| Bean products* | 1/2 cup |
| Chickpea flour* | 1/3 cup |
| Dhal / lentils* | 1/2 cup |
| Edamame* | 1/2 cup |
| Hummus* | 1/3 cup |
| Lima beans* | $1 / 3$ cup |
| Nuts | 1/4 cup |
| Peas* | 1/2 cup |
| Sambar (with dhal)* | 1/2 cup |
| Sprouted moong salad | lad 1 cup |
| Tempeh | 1/4 cup |
| Tofu | 1/2 cup |
| DAIRY |  |
| FOOD SER | SERVING SIZE |
| Buttermilk* | 1 cup |
| Cheese | 1 oz |
| Chocolate milk* | 1/2 cup |
| Cottage cheese | 1/4 cup |
| Evaporated milk* | 1/2 cup |
| Goat's milk* | 1 cup |
| Greek yogurt | 1/3 cup |
| Ice cream* | 1/2 cup |
| Lassi* | 1 cup |
| Milk* | 1 cup |
| Paneer | 1 oz |
| Plain yogurt* | 1 cup |
| Soy milk* | 1 cup |

## ANIMAL PROTEINS

Each serving has 0 grams of carbs. Choose lean meats to reduce fat. Meat curries will have carbs if starchy vegetables, sugar or tamarind are added.

| FOOD | SERVING SIZE |
| :--- | ---: |
| All meat | 1 oz |
| Canned sardines | 2 medium |
| Canned tuna | 1 oz or $1 / 4 \mathrm{cup}$ |
| Chicken leg | $1-11 / 2 \mathrm{oz}$ |
| Egg | 1 |
| Egg white | 2 |
| Egg substitute | $1 / 4$ cup |
| Fish / shellfish | 1 oz |
| Shrimp | 4 large |
| Tikka (chicken) | $3\left(1^{\prime \prime}\right.$ pieces) |
| Tikka (fish) | $3\left(1^{\prime \prime}\right.$ pieces $)$ |
| Tikka (lamb) | $3\left(1^{\prime \prime}\right.$ pieces) |

## PORTIONS



NON-STARCHYVEGETABLES


## PLAN YOUR MEAL

## BUILDING YOUR PLATE

Please discuss an individualized meal plan with your physician or dietitian. Ask them how many carbohydrates you should have with each meal and snack.

A general carbohydrate intake guideline is:

- $30-45 \mathrm{~g} / \mathrm{meal}$ for women (target 30 g for breakfast and $30-45 \mathrm{~g}$ for lunch and dinner).
- $45-60 \mathrm{~g} / \mathrm{meal}$ for men (target 45 g for breakfast and $45-60 \mathrm{~g}$ for lunch and dinner).
- Snacks, if needed, should be less than 15 g .
- Snacks should be less than 5 g if on meal-time insulin.

All meals and snacks should include a healthy serving of protein and /or fat.


## PORTION SIZES



## STEP 1: NON-STARCHY VEGETABLES

Fill 1/2 of your plate with 3 servings of non-starchy vegetables. (See pages 8-9.)

- 1 serving of non-starchy vegetables is 1 cup raw or $1 / 2$ cup cooked.
- 1 serving of non-starchy vegetables $=5 \mathrm{~g}$ of carbs.


## STEP 2: PROTEIN

Fill $1 / 4$ of your plate with $2-3$ servings of lean protein. (See pages $8-9$.)

- A lean animal protein portion is $\sim 3 \mathrm{oz}$ or the size of the palm of the hand.
- Animal proteins contain 0 grams of carbohydrates unless breaded or coated with carb source.
- Plant proteins and dairy may contain carbs.


## STEP 3: HEALTHY CARBOHYDRATES

Fill the last $1 / 4$ of your plate with 1-3 servings of healthy carbohydrates. (See pages 6-7.)

- Healthy carbohydrates include servings from whole grains, starchy vegetables, low-fat dairy and fruit.
- The serving size of healthy carbohydrates from these groups varies.
- 1 serving of healthy carbohydrates $=15 \mathrm{~g}$ of carbs.


Use a standard-size plate (9"diameter).

## E X A M P L E M E A L P L A N S

One Day: Non-Vegetarian or Vegetarian

|  | NON-VEGETARIAN | VEGETARIAN |
| :---: | :---: | :---: |
|  | STEP 1: NON-STARCHY VEGETABLES | STEP 1: NON-STARCHY VEGETABLES |
| $\begin{gathered} \frac{\sim}{4} \\ \frac{\underset{y}{4}}{\underset{\sim}{4}} \\ \underset{\sim}{\sim} \\ \hline \end{gathered}$ | STEP 2: PROTEINS 1 egg omelette | STEP 2: PROTEINS |
|  | STEP 3: CARBOHYDRATES <br> 1 chapati ( 15 g ) <br> 1 small apple ( 15 g ) <br> 1 cup chai with 1-2 Tbsp low-fat milk | STEP 3: CARBOHYDRATES <br> $28^{\prime \prime}$ moong dal dosa ( 30 g ) <br> 2 Tbsp tomato chutney <br> 1 cup chai with 1-2 Tbsp low-fat milk <br> (FREE FOOD) <br> 2 Tbsp peanut chutney (FAT) |
|  | BREAKFAST CARBS: $\quad 30 \mathrm{~g}$ | BREAKFAST CARBS: $\quad 30 \mathrm{~g}$ |
| $\begin{aligned} & \underline{u} \\ & \frac{4}{z} \\ & n \end{aligned}$ | MORNING SNACK (OPTIONAL) <br> (can be taken as a mid-morning snack in place of afternoon snack) <br> CARBS: $\qquad$ | MORNING SNACK (OPTIONAL) <br> (can be taken as a mid-morning snack in place of afternoon snack) <br> CARBS: $\qquad$ |
| $\begin{aligned} & \text { I } \\ & Z \\ & \beth \end{aligned}$ | STEP 1: NON-STARCHY VEGETABLES <br> 1 cucumber salad ( 5 g ) <br> 1 cup green beans sabzi ( 10 g ) | STEP 1: NON-STARCHY VEGETABLES <br> $1 / 2$ cup cabbage sabzi (5g) <br> 1 cup cucumber salad ( 5 g ) |
|  | STEP 2: PROTEINS <br> $30 z$ chicken tikka or 3oz fish | STEP 2: PROTEINS <br> $1 / 2$ cup Greek yogurt ( 5 g ) |
|  | STEP 3: CARBOHYDRATES <br> $2 / 3$ cup brown rice ( 30 g ) <br> 1 cup yogurt or buttermilk (12g) | STEP 3: CARBOHYDRATES <br> $2 / 3$ cup brown rice $(30 \mathrm{~g})$ <br> $1 / 2$ cup dhal with spinach (10-12g) |
|  | LUNCH CARBS: $\quad 57 \mathrm{~g}$ | LUNCH CARBS: $\quad 57 \mathrm{~g}$ |
| $\begin{aligned} & \frac{y}{u} \\ & \frac{4}{4} \\ & \vdots \end{aligned}$ | AFTERNOON SNACK (OPTIONAL) <br> 1 apple (15g) <br> 1 cup chai with 1-2 Tbsp low-fat milk <br> 8-10 almonds <br> CARBS: $\qquad$ | AFTERNOON SNACK (OPTIONAL) <br> 1 guava ( 15 g ) <br> 1 cup chai with 1-2 Tbsp low-fat milk <br> 8-10 almonds <br> CARBS: $\qquad$ |
| $\begin{aligned} & \stackrel{\sim}{u} \\ & \frac{z}{z} \end{aligned}$ | STEP 1: NON-STARCHY VEGETABLES 2 cups salad greens ( $<5 \mathrm{~g}$ ) | STEP 1: NON-STARCHY VEGETABLES <br> 2 cups salad greens ( $<5 \mathrm{~g}$ ) |
|  | STEP 2: PROTEINS <br> 3oz chicken tikka or 3oz fish | STEP 2: PROTEINS 1/2 cup tofu |
|  | STEP 3: CARBOHYDRATES <br> 1 chapati ( 15 g ) <br> $1 / 2$ cup chole / chickpeas ( 15 g ) <br> $3 / 4$ cup blueberries ( 15 g ) | STEP 3: CARBOHYDRATES <br> 1 chapati ( 15 g ) <br> $1 / 2$ cup chole / chickpeas ( 15 g ) <br> 1 cup papaya ( 15 g ) |
|  | DINNER CARBS: $\quad 50 \mathrm{~g}$ | DINNER CARBS: $\quad 50 \mathrm{~g}$ |

## CREATE YOUR OWN

Try filling out your meal plan using this template:
I can have $\qquad$ g carb for breakfast, $\qquad$ gm for lunch, $\qquad$ g for dinner and $\qquad$ g carb per snack.

STEP 1: NON-STARCHY VEGETABLES
$\qquad$

STEP 2: PROTEINS (plant proteins and dairy that may also contain carbs)

STEP 3: CARBOHYDRATES (starches/grains, starchy vegetable, dairy or fruits)

MORNING SNACK (OPTIONAL)

STEP 1: NON-STARCHY VEGETABLES

STEP 2: PROTEINS (plant proteins and dairy that may also contain carbs)

STEP 3: CARBOHYDRATES (starches/grains, starchy vegetable, dairy or fruits)

LUNCH CARBS:
AFTERNOON SNACK (OPTIONAL)

STEP 1: NON-STARCHY VEGETABLES

STEP 2: PROTEINS (plant proteins and dairy that may also contain carbs)

STEP 3: CARBOHYDRATES (starches/grains, starchy vegetable, dairy or fruits)


## RESOURCES

## DIABETES-RELATED RESOURCES AND LINKS

American Diabetes Association (ADA)
American Heart Association
Academy of Nutrition and Dietetics
Know Diabetes by Heart
National Diabetes Information Clearinghouse

PATIENT PRESCRIPTION ASSISTANCE
ADA Insulin Assistance
NeedyMeds
RxHope
GoodRx
www.diabetes.org
www.heart.org
www.eatright.org
www.knowdiabetesbyheart.org
www.diabetes.niddk.nih.gov
https://insulinhelp.org/
https://www.needymeds.org/
https://www.rxhope.com/
www.goodrx.com/discount-card/

## OTHER RESOURCE SITES

## DiabetesNet.com

http://www.diabetesnet.com/diabetes-resources/diabetes-assistance

## The Centers for Disease Control and Prevention

http://www.cdc.gov/diabetes/managing

## Memorial Hermann Diabetes \& Endocrinology-Diabetes Self-Management

## Education Program

http://www.memorialhermann.org/diabetes

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[^0]:    https://www.sukham.org/wp-content/uploads/2019/06/aapi_guide_to_nutrition_health_and_diabetes.pdf

