



Cooking Tips and Recipe Adaptation for the Medical Ketogenic Diet



Chef Rachel Finn
August 24, 2020

©2020 Nutricia North America

1



Disclosures

- Consultant & Keto Chef Ambassador – Nutricia North America

©2020 Nutricia North America

2



Converting a home recipe into a ketogenic recipe



©2020 Nutricia North America

3



Tip 1: Weighing in on balancing recipes

Ratio
Calories
Protein

Flavor
Texture
Final product
Ease of recipe



©2020 Nutricia North America

4



Tip 2: Substitutions

Milk



- Heavy whipping cream + water
- Heavy cream + milk
- Heavy cream + half and half

Sugar



- Stevia leaf extract
- Erythritol
- Sucralose
- What about a combination?

Flour



- Almond flour
- Coconut flour
- Nut flours
- KetoCal® Formula

©2020 Nutricia North America

5



Creative substitutions

All Purpose Flour

- Almond flour or Coconut flour
- Almond flour + Coconut flour
- KetoCal® powder with Almond or Coconut Flours

Whole Wheat Flour

Almond flour + coconut flour + ground flax seed

Grits

Riced cauliflower + almond flour + water

Lentils, Cream of Wheat®/rice

Almond flours + coconut flour



©2020 Nutricia North America

Cream of Wheat is a trademark of B&G Foods North America, Inc. and not affiliated with Nutricia North America.

6

Tip 3: Know approximate weights

Household measurements	Approximate weight
½ cup KetoCal® powder	50 grams
½ cup almond flour (not meal) / coconut flour	50 grams
1 tablespoon coconut flour	6 grams
1 tablespoon onion, raw	20 grams
1 teaspoon tomato paste	10 grams
1 teaspoon powdered spices	4 grams
1 teaspoon seeds (cumin, mustard, etc.)	3 grams
1 tablespoon chopped jalapeno	5 grams
1 teaspoon vinegars, soy sauce, vanilla	4-5 grams

7

Tip 4: Substituting Ingredients



1 cup
All purpose flour

- ¼ cup (25 grams)
Almond flour or Coconut flour

1 cup
Granulated Sugar

- ¼ cup (40 grams or less)
Sweetener

1 cup
Fat (butter/oil)

- ¼ cup (56 grams) Fat

©2020 Nutricia North America

8

Tip 5: Understanding the Ingredients



Almond Flour (blanched, skin removed and ground)

- High fat and has carbohydrates and protein

Preparation advice

Blend in food processor or blender to grind to a finer texture. Can sift before weighing.

Use a little less oil and water in recipes. Careful not thin out batters or product will deflate.

Use an extra egg or half an egg.

Adding extra raising agent (e.g., baking powder or baking soda).

Baking advice

Bake 25°F lower

Almond flour may brown too quickly, so cover it with aluminum foil

Bake for a shorter time and turn off oven and allow to crisp

Always allow keto-friendly baked goods to sit and cool completely. Muffins and cakes will develop a better texture and hold together.



©2020 Nutricia North America

9

Tip 5: Understanding the ingredients



Coconut Flour

Preparation advice

Substitute $\frac{1}{4}$ cup (25 grams) of coconut flour for every 1 cup of regular all-purpose flour in a recipe.

For every $\frac{1}{4}$ cup (25 grams) of coconut flour, use 1.5 eggs (approx. 75 grams) and $\frac{1}{4}$ cup of liquid.

Baking advice

Coconut flour can be baked at the same temperature as other recipes.

Batters will thicken after they have rested for at least 10 minutes.



©2020 Nutricia North America

10

Tip 5: Understanding the ingredients



KetoCal® Powders – 4:1 or 3:1

KetoCal 3:1

Unflavored

Use in savory dishes

High fat, low carb and high in protein

Needs additional alternative flour: coconut flour, almond flour, etc.

Will need additional water to hydrate

KetoCal 4:1

Vanilla flavored in North America

Use for sweet treats and dishes

High in fat, low in carb and high in protein

Needs additional alternative flour: coconut flour etc.

Will need additional water to hydrate

©2020 Nutricia North America

11

Tip 5: Understanding the ingredients



Alternative Sweeteners

Stevia. One of the most common sugar substitutions for the ketogenic diet. Incredibly sweet with no glycemic impact. The liquid form is preferred, but not for baking. Has a slight bitter after taste.

Sucralose. A very easy to find, very sweet substitution to sugar. Liquid versions are preferred.

Erythritol. Great sugar substitution that has 0 glycemic impact. Passes through our bodies undigested and is excreted without absorbing the carbs. Has a cooling feeling to the mouth.

Monk fruit. This is a less common sweetener and usually used in combination with others. Found in many prepackaged keto foods. May be hard to find.

Combination of the sweeteners gives the desired sweetness.
Erythritol + Stevia = emulates granulated sugar sweetness

©2020 Nutricia North America

Regnat, et al. Applied microbiology and biotechnology. 2018;102:587-95.; Samuel, et al. J Nutr. 2018;148:1186s-205s.

12



Tip 6: Switching out ingredients

Replace every 1/4 cup (25 grams) of coconut flour with at least 1 cup (100 grams) almond flour

- Decrease the amount of liquid
- Use 1.5 eggs (~75 grams) for every ¼ cup (25 grams) of coconut flour that the recipe initially called for.

When combining almond flour and coconut flour together (resembles all-purpose flour)

- Use the ratio 3:1
- 3 parts almond flour to 1-part coconut flour
- Keep the liquid the same

©2020 Nutricia North America

13



Chocolate Mayonnaise Cake

- 2 cups all-purpose flour
- ⅔ cup unsweetened cocoa powder
- 1 ¼ tsp. baking soda
- ¼ tsp. baking powder
- 3 eggs
- 1 ⅔ cups sugar
- 1 tsp. vanilla extract
- 1 cup Hellmann's® or Best Foods® Real Mayonnaise
- 1 ⅓ cups water



©2020 Nutricia North America

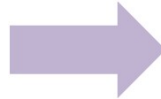
Hellmann's and Best Foods are registered trademarks of Conopco, Inc. and not affiliated with Nutricia North America.

14

Tip 7: Making Chocolate Mayonnaise Cake Keto-Friendly



2 cups all-purpose flour	250 grams all-purpose flour
$\frac{2}{3}$ cup unsweetened cocoa powder	85 grams unsweetened cocoa powder
1 $\frac{1}{4}$ tsp. baking soda	5 grams baking soda
$\frac{1}{4}$ tsp. baking powder	1 gram baking powder
3 eggs	150 grams eggs
1 $\frac{2}{3}$ cups sugar	335 grams sugar
1 tsp. vanilla extract	4 grams vanilla extract
1 cup Hellmann's® or Best Foods® Real Mayonnaise	220 grams Hellmann's® or Best Foods® Real Mayonnaise
1 $\frac{1}{3}$ cups water	316 mL water



©2020 Nutricia North America

Hellmann's and Best Foods are registered trademarks of Conopco, Inc. and not affiliated with Nutricia North America.

15

Tip 8: KetoCal Chocolate Mayonnaise Cake



Ratio 0.36:1

Calories: 4558; Fat: 226 g;
Protein: 72.42g; Net Carb: 557.95 g

250 grams all-purpose flour

85 grams unsweetened cocoa powder

5 grams baking soda

1 gram baking powder

150 grams eggs

335 grams sugar

4 grams vanilla extract

220 grams Hellmann's® or Best Foods® Real Mayonnaise

316 mL water

Ratio: 3:1

Calories: 1268; Fat: 122.94 g;
Protein: 25.79 g; Net Carbs: 14.61 g

40 grams almond flour

50 grams KetoCal® 4:1 powder

15 grams unsweetened cocoa powder

1 gram baking soda

pinch baking powder

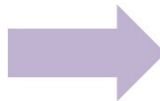
50 grams eggs

20 grams Erythritol

1 gram vanilla extract

80 grams Hellmann's® or Best Foods® Real Mayonnaise

60 mL water



©2020 Nutricia North America

Hellmann's and Best Foods are registered trademarks of Conopco, Inc. and not affiliated with Nutricia North America.

16

Chocolate Buttercream Recipe



Ratio: 9.24:1

Calories: 874; Fat: 92.65 g; Protein: 2.96 g; Net Carbs: 7.07 g

- 113 grams butter, softened
- 20 grams unsweetened cocoa powder
- 30 grams erythritol

©2020 Nutricia North America

17

KetoCal Chocolate Mayonnaise Cake



Ratio: 4:1
Calories: 400

60 grams KetoCal 3:1 Chocolate Cake Batter
26 grams Chocolate Butter Cream

©2020 Nutricia North America

18

Tip 9: Making Snack portions



100 Calories
2:1 Ratio

12 grams KetoCal 3:1
Chocolate cake

5 grams Chocolate
Buttercream

4 grams chocolate
chips



100 Calories
3:1 Ratio

12 grams KetoCal
3:1 Chocolate cake

4 grams Chocolate
Buttercream

1 gram chocolate
chips



100 Calories
4:1 Ratio

12 grams KetoCal 3:1
Chocolate cake

6 grams Chocolate
Buttercream



150 Calories
4:1 Ratio

20 grams KetoCal 3:1
Chocolate cake

9 grams Chocolate
Buttercream



200 Calories
4:1 Ratio

30 grams KetoCal 3:1
Chocolate cake

13 grams Chocolate
Buttercream

©2020 Nutricia North America

19

My favorite side dish



Stuffing



Traditional stuffing recipe

Yields 4 cups

- $\frac{3}{4}$ cup unsalted butter
- 1 pound good-quality day-old white bread
- 2 $\frac{1}{2}$ cups chopped yellow onions
- 1 $\frac{1}{2}$ cups $\frac{1}{4}$ " slices celery
- $\frac{1}{2}$ cup chopped flat-leaf parsley
- 2 tablespoons chopped fresh sage
- 1 tablespoon chopped fresh rosemary
- 1 tablespoon chopped fresh thyme
- 2 teaspoons kosher salt
- 1 teaspoon freshly ground black pepper
- 2 $\frac{1}{2}$ cups low-sodium chicken broth
- 2 large eggs

©2020 Nutricia North America

20

KetoCal® 3:1

Thanksgiving Stuffing

Yields 168 grams

Calories: 685; Fat: 66.17g; Protein: 14.1g; Net Carbohydrate: 7.98g

- 20 grams butter
- 20 grams coconut flour
- 40 grams formula: KetoCoal® powder 3:1 Nutricia NA
- Pinch of each: poultry seasoning and onion powder
- 40 grams bone broth, chicken
- 18 grams olive oil
- 30 grams egg (raw, mixed well)






©2020 Nutricia North America

21

Tip 10: What else can you make



Topping for
Casseroles



Crust for savory
items like quiche

Tamale

©2020 Nutricia North America

22

Be creative



Dhal (Dal) like 2.5:1

- 20 grams ghee
 - 15 grams onion, raw
 - 1 gram cumin seed
 - 5 grams jalapeno, chopped
 - 1 gram ginger powder
 - 1 gram garlic powder
 - 1 gram cayenne powder
 - 3 grams onion powder
 - 6 grams tomato paste
 - 5 grams coconut flour
 - 60 grams almond flour
- 240 mL water
 - 32 grams Liquigen®, Nutricia (emulsified MCT oil and water)

Additional ingredients: black peppercorn, bay leaf (remove before serving)

©2020 Nutricia North America

23

Conclusion



Not all recipes need to be at 3:1 or 4:1 ratio
The recipes need to be able to be enjoyed



Families want easy recipes that are easy to follow.



Our patients want tasty food and a portion
That will satisfy the visual appearance



Keto U 2019, Kansas
City, Cooking workshop

©2020 Nutricia North America

24

Other recipes/tutorials

- 3:1 Chicken Nugget Recipe <https://youtu.be/mv89MN8m5iE>
- Keto-friendly 3:1 Tater Tots (using cauliflower) <https://youtu.be/AUtirpdx5xE>
- 4:1 Pizza Muffin Recipe https://youtu.be/89_qLrhKK7Y



- 3:1 chocolate donuts <https://youtu.be/9wKnip4m74k>



©2020 Nutricia North America

25

References

- Regnat K, Mach RL, Mach-Aigner AR. Erythritol as sweetener-wherefrom and whereto? Applied microbiology and biotechnology. 2018;102:587-95.
- Samuel P, Ayoob KT, Magnuson BA, et al. Stevia Leaf to Stevia Sweetener: Exploring Its Science, Benefits, and Future Potential. J Nutr. 2018;148:1186s-205s



©2020 Nutricia North America

26

Why we do it...



©2020 Nutricia North America

27



Questions and Answers

Please enter your questions into the Q&A box on the right hand side of your screen

©2020 Nutricia North America

28

THANK YOU!

To obtain your CE credit, please complete our survey at

<https://www.surveymonkey.com/r/KUCOOK>



Enter the event code from the survey into your account at
Nutricia Learning Center at

www.NutriciaLearningCenter.com

For question on this Webinar or Nutricia's products, please email:

NutritionServices@nutricia.com

or call:

1-800-365-7354

©2020 Nutricia North America