



Above: OHSU STAIR research team.

Right: Kate Haas and Julia Jordan, OHSU Bionutrition



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# The Oregon SLOS Cookbook



## A Guide for Cholesterol Management for the Patient with Smith-Lemli-Opitz Syndrome

**The Oregon SLOS Cookbook—  
A Guide for Cholesterol Management for the Patient  
with Smith-Lemli-Opitz Syndrome**

Developed by the Bionutrition Unit,  
Clinical and Translational Research Center,  
OHSU Clinical and Translational Research Institute,  
Oregon Health & Science University, 2007 and revised  
2013.

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and Translational Research Center Bionutrition Unit,  
503-494-4786 for assistance.

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Clinical and Translational Research Center (CTRC)

## ADDITIONAL RESOURCES

### HOW TO FIND A DIETITIAN:



Be sure to look for a **Registered Dietitian (RD)** which means the person has completed a college program, passed a national exam and meets continuing education requirements. The term *nutritionist* does not necessarily indicate someone who has completed any special training. Ask for more information from those persons.

Contact the Academy of Nutrition and Dietetics (AND) to find a local dietitian. Either call toll-free at 1–800–366–1655 or go to: [www.eatright.org](http://www.eatright.org), click on "Find a Nutrition Professional" for a dietitian in your zip code area. You can also look under "Dietitian" in the yellow pages. However, the AND website has a more complete listing.

### OTHER RECIPE SOURCES ONLINE:

Kid-friendly recipes from Alberta Egg Producers:  
<http://www.eggs.ab.ca/kids/kidsrecipes/splash.htm>

American Egg Board:  
<http://www.aeb.org/Recipes/>

Iowa Egg Council:  
<http://www.iowaegg.org/recipes.php>

RoseAcre Farms:  
<http://www.goodegg.com/recipe.html>

Australian Egg Recipes:  
<http://www.goldeneggs.com.au/recipes/index.html>

United Kingdom Egg Recipes:  
<http://www.eggrecipes.co.uk/>

## PUDDINGS

For both methods use **regular pudding mix** (the kind that you need to cook) and NOT instant. We recommend chocolate, vanilla and lemon flavors.

### **Single-serving Microwave Method:**

½ cup whole milk  
2 egg yolks  
2 Tablespoons pudding mix

For a quick and easy pudding, add egg yolks to milk and blend with a wire whisk. Add pudding mix and blend. Microwave for 15 seconds and whisk. Repeat microwaving and whisking until mixture has come to a boil, (usually a total cooking time of about a minute and a half, but this varies with each microwave). Pour into serving dish. May be served warm or chilled.

**Makes one serving, 2 egg yolks per serving.**

### **Stove Top Method:**

1 box pudding mix  
3 cups whole milk  
6 egg yolks

Pour milk into sauce pan and stir in pudding mix. Place pan on medium heat. In a separate bowl, whisk egg yolks until blended together. Once milk is hot (not boiling), remove from heat and pour a small amount of it (about ¼ cup) into the bowl with the egg yolk and whisk. (This is to gently heat the yolks without cooking them—you don't want to end up with scrambled eggs.) Now pour the yolks back into the pan with the milk, and return pan to heat. Continue to whisk the mixture until it comes to a boil. Pour pudding into dessert dishes or a large bowl. May be served warm or chilled.

**Makes 6 servings, 1/2 egg yolks per serving.**

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## FOREWORD & ACKNOWLEDGEMENTS

By Julia Jordan, MS, RD, LD and  
Kate Haas, MPH, RD, LD  
OHSU Research Dietitians  
Clinical & Translational Research Center

Researchers at the Oregon Health and Science University (OHSU) have been working with patients with Smith-Lemli-Opitz Syndrome (SLOS) and their families for over ten years. Julia joined OHSU in 2003 as a research dietitian and Kate took over much of the coordination for this project in 2011. Over the past several years, we have worked with the food and nutrition aspects of the research study with many families and have come to know them very well.

Prior to research on SLOS, most cholesterol-related research at OHSU focused on *reducing* blood cholesterol levels rather than increasing them. The kitchen staff and dietitians working in the OHSU's General Clinical Research Center Bionutrition Unit, for example, developed and tested many recipes for the low-fat and low-cholesterol *Alternative Diet Cookbook* series by Dr. William and Sonja Connor.

A change in strategy came in 1995 when the first SLOS patient was seen here in Oregon.

## YOLKEY COOKIES

½ cup sugar  
½ cup brown sugar  
1/3 cup butter (unsalted is preferred), at room temperature  
2 teaspoons vanilla extract  
1 teaspoon grated orange or lemon peel (if desired)  
2 whole eggs  
4 egg yolks (save 2 whites)  
2 ½ cups flour  
2 teaspoons baking powder  
2 egg whites (for brushing tops of cookies)

Preheat oven to 350°. Cream sugar with butter, vanilla extract and grated peel until well blended. Add two whole eggs and four yolks and beat well. In a separate, small bowl, combine flour and baking powder. Add dry ingredients to yolk mixture and stir enough to mix in the dry ingredients. Do not over-mix.

Divide into 24 cookies and roll with floured hands into balls. Place cookies on lightly greased cookie sheet. Combine 2 egg whites with 2 tablespoons of water. Whisk together and brush on top of each cookie for a shiny texture. Bake 10-12 minutes or until golden brown. Cookies can be frozen for later use.

Recipe makes 24 cookies, and each cookie contains **1/4 egg yolk**.

### Variations:

#### **Chocolate Chip Yolkey Cookies:**

Add ½ cup mini semisweet chocolate chips to the batter after mixing in the dry ingredients.

#### **Frosted Yolkey Cookies**

3 cups powdered sugar  
½ teaspoon lemon extract  
Water, added 1 Tablespoon at a time

Combine powdered sugar, lemon extract. Add water one Tablespoon at a time to make a frosting that has a thick, syrupy consistency. If desired, sprinkle with candy sprinkles or finely chopped nuts.

## TUNA EGG YOLK SALAD

¼ cup drained tuna  
1 whole hard cooked egg yolk, chopped fine  
2 teaspoons mayonnaise  
½ teaspoon pickle relish (optional)

Mix well. Serve on crackers or bread.  
This recipe makes one serving, which contains **1 egg yolk**.



## EGG YOLK SALAD

½ hard cooked egg white, chopped fine  
1 whole hard cooked egg yolk, chopped fine  
2 teaspoons mayonnaise

Mix well. Serve on crackers or bread.  
This recipe makes one serving, which contains **1 egg yolk**.

In what must have been a surprise to researchers at the time, the GCRC Bionutrition Unit switched gears to develop a diet high in cholesterol diet and saturated fat. Donna Flavell, one of the first dietitians to work with the patients here, contributed much of the original legwork. When she retired in 2003, she left me a thick folder full of high-cholesterol, egg-containing recipes that SLOS families had used over the years.

We have always wanted to put some of



Julia Jordan with study family in an OHSU Research Center Inpatient Room.



Past OHSU research study participants.

## BAKED VANILLA CUSTARD

8 large raw egg yolks  
¼ teaspoon salt  
1/3 cup sugar  
1 ½ cup whole milk  
1 ½ teaspoons vanilla

Preheat oven to 350 degrees. Blend ingredients together. Pour the uncooked mixture into 8 custard cups or a one quart casserole dish. In a larger casserole dish or a 9 X 13 pan, pour warm water 1 inch deep. Set the custard cups or casserole dish in the water, then carefully place in the oven. Bake for 45 to 50 minutes or until a knife inserted in the center of the custard comes out clean. Cinnamon or nutmeg can be sprinkled over the top of the custard, but use caution because some children don't like the strong flavor of the spices.

Makes 8 servings; each contains **1 egg yolk.**



## EGGIE POTATOES

5 pounds russet or baking potatoes (about 12 medium)  
1 stick + 3 Tbsp butter, softened (unsalted is preferable)  
1 whole egg  
11 (eleven) egg yolks  
1 cup half and half  
1 ½ teaspoons salt  
1 ½ teaspoons white pepper  
Optional seasonings and additions: garlic powder, onion powder, fresh or dried herbs such as chives, thyme, rosemary, or chopped pre-cooked bacon.

Preheat oven to 400°. Wash potatoes and pierce with a fork, then bake until tender, about 1 hour. Allow potatoes to cool slightly, then peel and mash in a bowl. Reduce oven temperature to 350°.

Using an electric mixer, beat whole egg into mashed potatoes, then one egg yolk and 1 tablespoon of butter at a time, until completely incorporated. Add half and half slowly until completely blended and smooth, then season with salt and pepper. Add additional herbs and spices if desired.

Spread potato mixture into buttered 9 x 13 pan. Melt additional 3 Tbsp butter and drizzle over the top. Cover with foil and bake for 20 minutes. Uncover and bake an additional 20 minutes.

Makes about twelve servings, with **one egg yolk per serving**.

Topping Ideas: Shredded Cheese, Buttered Bread Crumbs

recipes into a handbook and share them with families. The 2007 National SLOS Conference in Portland gave us the boost needed to create the first version of The Oregon SLOS Cookbook. We have focused on easy-to-prepare recipes that children and young adults might enjoy. At the end of each recipe, we list the amount of egg yolk in each serving. The amounts (usually ¼, ½, or 1 egg yolk per serving) can be easily added together in order to track total daily cholesterol intake. We have also included information in this booklet that might be helpful in finding and working with egg products. Recently, we've updated our recommendations and cholesterol amounts in foods for the 2nd (June 2013) version.

The following groups deserve thanks and acknowledgement for their contributions, large and small, to this book. First and foremost, we would like to thank the families of our patients, to whom this handbook is dedicated. Your daily experiences with SLOS have been invaluable pieces of the research, and some of you may even recognize one of your recipes in this book!

We want to thank former research kitchen technicians David Belknap, Sarah Van Dyck, Janet Brock, Lisa Feringa, Lisa Sue Bessire, Jeanne Laravuso, Donna Kisby, Sarah Studzienski, and Millie Hunt who worked with families in the Oregon GCRC over many years.

We are also grateful to Louise Merkens, PhD and Martha McMurry, MS, RD for their encouragement to develop a booklet of resources for patient families. Research dietitians Lauren Hatcher, MS, RD, Sonja Connor, MS, RD, Donna Flavell, RD, Becky Kitterman, RD and Reba Clow, RD have all contributed to the medical diet therapy for SLOS since the research began eighteen years ago.

Originally, John Campbell, a college student intrigued by his class in nutrition at Portland State University, asked to volunteer in the OHSU Bionutrition Unit to learn more about nutrition research. We are grateful for his energy in helping push this project to completion.

We have learned so much from all of our SLOS study participants and families over the years, and we hope that you will learn something from this handbook.

Julia Jordan & Kate Haas  
June 04, 2013

Development of these recipes over the years was done originally for Dr. Robert Steiner's research study entitled "Cholesterol and Defects in Cholesterol Synthesis in SLOS," funded by the National Institutes of Health grant R01 HL-073980. This revision fell under the current grant, "Smith-Lemli-Opitz Syndrome: A longitudinal clinical study of patients receiving cholesterol supplementation", also funded by the National Institutes of Health (Grant #U54HD061939). This work has been supported by the Clinical and Translational Research Center, part of the Oregon Clinical & Translational Research Institute (NIH 1UL1 RR24140-01).

## CHEESE STICKS

7 Tablespoons Cheddar Cheese, finely chopped  
6 egg yolks  
3 Tablespoons butter  
1 cup flour  
1 ½ teaspoons salt  
4 Tablespoons heavy cream

Preheat oven to 400°.

Mix flour, salt and butter in a bowl. Add egg yolks and mix by hand or with a spoon just until blended. Add heavy cream one tablespoon at a time until dough is moistened.

Roll dough out on lightly floured surface, until ¼" thick. Slice into 1" strips, making about 12 sticks total, and place on cookie sheet. Bake at 400° for 15 minutes, or until golden brown.

These can be eaten like crackers as a snack or with soups or toppings.

Makes about twelve sticks, with **1/2 egg yolk per serving.**



## GREEN EGGS & HAM

4 Tablespoons butter – melted  
12 egg yolks  
1 cup flour  
1 cup whole milk  
1 teaspoon salt  
1 teaspoon baking powder  
16 oz cheddar cheese – cubed  
2 boxes (10 oz) cooked chopped spinach,  
drained but avoid hard squeezing  
1/8 cup chopped onion  
1 cup ham – cooked, diced

Mix all ingredients in large mixing bowl.  
Spray 9 x 13-inch pan with PAM. Pour mixture into pan.

Bake at 350° for 35-40 min.

Makes about twelve servings, with **one egg yolk per serving**.



## MESSAGE ABOUT DIETARY CHOLESTEROL SUPPLEMENTATION IN SLOS PATIENTS

Original by: William Connor, MD  
Updated by: Anne Tsai, MD. MSc, FAAP, FACMG and  
Kate Haas, MPH, RD, LD  
Oregon Health & Science University

Increasing the amount of cholesterol in the diet is now thought of as routine for children with Smith-Lemli-Opitz Syndrome (SLOS) and may improve their health. The goal of diet therapy is not only to increase cholesterol levels, but also to provide patients with adequate amounts of energy, protein, vitamins and minerals to allow them to grow and develop to their fullest potential.

Cholesterol is found everywhere in the body and is a vital component of the brain. It is also used to make many other chemicals in the body, including bile acids and adrenal and sex hormones. Thus it is important to try to restore brain and body cholesterol level in SLOS where the ability to make cholesterol is affected. The enzyme that is too low in SLOS makes cholesterol from a related compound called 7-dehydrocholesterol or 7DHC. 7DHC is highly reactive and having too much of it is toxic to cells.

In SLOS, because the enzyme does not work well, 7DHC builds up and its toxicity may contribute to the disease. In brief, the research suggests that many of the medical problems associated with SLOS, including severe growth failure, brain malformation, delayed nerve development, and ambiguous genitalia, are explained by

both cholesterol deficiency and 7DHC build-up.

Cholesterol coming from the diet cannot enter the brain directly. However, many proteins are made by organs other than the brain (i.e. liver, kidney), that can take up dietary cholesterol. So, the idea behind adding cholesterol to the diet in SLOS, is that this type of addition will help to provide many organs with added cholesterol and to restore their function close to normal.

Currently, no research study has shown, conclusively, that dietary cholesterol supplementation or any other form of cholesterol supplementation helps improve the symptoms of SLOS. Because of this, more research is underway.

Many studies have shown that changing to a diet high in cholesterol and saturated fat will increase blood cholesterol concentrations. Eating a diet high in saturated fat and cholesterol will raise the blood level of cholesterol about 30 percent or more in people with normal or high cholesterol levels. We have found that a high cholesterol diet can also increase the blood cholesterol levels in SLOS patients.

The best way to add cholesterol to the diet is by adding egg yolk or dried egg yolk powder. One and one-fourth tablespoons of dried powdered egg yolk is equivalent to the cholesterol content of one fresh egg yolk (about 180 mg cholesterol). Mashed egg yolks separated from hard-cooked eggs or the dry powdered egg yolk can be mixed with milk, formula or other foods. Sources of egg yolk products are described later.

Sometimes absorption can be limited in

## STRAWBERRY STRATA

*This strata is similar to a baked French toast, especially sprinkled with sifted powdered sugar before serving!*

4 oz cream cheese at room temperature (about ½ cup)  
4 oz ricotta cheese at room temperature (about ½ cup)  
8 eggs  
2 cups whole milk  
1 cup (10 oz) frozen strawberries,  
thawed and drained  
½ cup honey – warmed  
1 teaspoon ground cinnamon  
1 ciabatta loaf (see note)– a 12 to 1  
6-inch loaf, with the crust re-  
moved and bread cut into 1-  
inch cubes



Heat oven to 350°. Place the cheeses in a large bowl and stir together with a wooden spoon. Add the eggs, one at a time, mixing until completely incorporated before adding the next. Stir in the milk, strawberries, honey, cinnamon, and bread. Pour into an 8 x 10 x 2-inch casserole dish.

Bake covered with foil for 45 minutes. Increase the oven temperature to 400° and remove the foil. Continue baking for 25 to 30 minutes.

**Makes 8 servings. Contains one egg yolk per serving.**

Note: Ciabatta is a flat, white Italian bread. If not available, use a large French loaf or a white round loaf.

## MACARONI & CHEESE

1 box Kraft™ Macaroni & Cheese  
6 cups water  
6 Tablespoons butter  
½ cup whole milk  
6 egg yolks

Boil water and stir in macaroni, following directions on the box. Drain, but do not rinse, and return to pan.

While the macaroni is cooking, warm the butter and milk together in a sauce pan (not to boiling). In a separate bowl, blend egg yolks together with a whisk. Add one spoonful of the butter and milk mixture to the egg yolks. Whisk constantly to warm the egg yolks slowly without cooking them. Continue adding the butter and milk mixture to the egg yolks, stirring after each addition until you've added about 1/3 of the original mixture.

Take the pan with the milk and butter mixture off the heat and add the egg yolk mixture, whisking constantly. Add the Cheese Sauce Mix from the box, and return to medium heat. Continue to stir constantly (or the eggs might still scramble) and gently bring the temperature of the mixture up to 165°. Pour cheese sauce over drained macaroni.

**Makes 6 servings. Contains one egg yolk per serving.**

*Ideas for additions:* Salsa, cooked chicken, canned tuna, hot dogs, fresh or frozen vegetables, extra cheese or buttered bread crumbs on top.

someone who has an abnormal intestinal system or food allergies to egg and milk. For these people, other sources of foods rich in cholesterol can be tried. These include foods rich in saturated fat such as butter, cheese, heavy cream, ice cream and whole milk, chocolate, beef or other meats.

If the SLOS patient refuses/or is unable to eat eggs and foods that have been mixed with egg yolks or yolk powder, cholesterol supplementation with SLOesterol or crystalline cholesterol\* can be tried. The cholesterol supplement is dissolved in oil or mixed with OraPlus. Typically, higher doses of crystalline cholesterol are prescribed compared to doses dietary cholesterol because crystalline cholesterol may not be as well absorbed by the gut as the cholesterol in egg yolk and other foods. This cookbook serves as a good resource for guidance and options.

In summary, we recommend that families use these foods to increase the plasma cholesterol and LDL cholesterol levels. Egg yolk and sources of saturated fat such as butterfat, cheese, heavy cream, and whole milk will increase the total blood cholesterol concentrations in SLOS patients and also provide them with many other nutrients.

\*Crystalline cholesterol is not approved as a food supplement by the Food and Drug Administration (FDA) and is not in their list of supplements.



Dr. Connor began studying SLOS at OHSU in 1995 when the first patient was seen and went on to develop the research program. He was a national leader in nutrition and lipid research on many topics from the 1960s until he passed away in 2009.

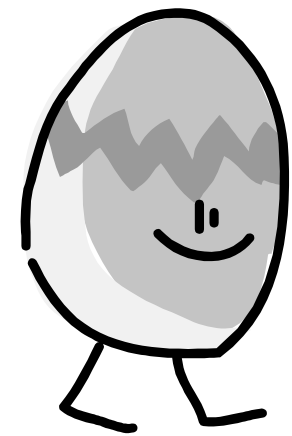
<b>Cholesterol and Saturated Fat Content of a Variety of Foods</b>	Serving size	Cholesterol (mg) per serving	Saturated fat (g) per serving
Bacon	1 slice	9	1
Butter	1 Tbsp.	31	7
Cheeses, Cheddar & other bricks	1 oz	30	6
Cheese, Cottage, Creamed	1 oz (1-2 Tbsp.)	5	1
Cheese, Cream	1 oz (2 Tbsp)	31	6
Chocolate Syrup	2 Tbsp.	0	0
Chocolate, Cocoa Powder	1 Tbsp.	0	0
Chocolate, Solid bar, varying in cocoa butter content	1 oz. square	7	5-10
Cream, whipping (fluid)	1 Tbsp	17	3
Egg yolk	1 large	180	2
Egg, white	1 large	0	0
Egg, whole	1 large	187	2
Fish, variety, cooked	3 oz.	25-50	1
Hot dog, beef or pork	1 hot dog	25	5
Ice cream, vanilla	½ cup	29	5
Liver, cooked	3 oz	337	2
Meat--Beef, pork and lamb, cooked	3 oz.	76	6
Milk, 2%	1 cup	20	3
Milk, nonfat	1 cup	5	0
Milk, whole	1 cup	24	5
Poultry, Dark Meat--Chicken and turkey, cooked	3 oz	70	3
Poultry, Light Meat--Chicken and turkey, cooked	3 oz	72	1
Sausage	1 patty	23	3
Shrimp, cooked	3 oz	179	1

## FRENCH TOAST

2 egg yolks  
 1 egg white  
 2 Tablespoons whole milk  
 1/8 teaspoon vanilla or dash cinnamon (optional)  
 2 slices white or French bread

Blend together the egg yolks, egg white, milk, and flavoring. Soak the 2 slices of bread in the mixture. Cook in a skillet over medium heat, use non-stick spray to coat pan. Brown on both sides. Serve with jam or syrup.

One slice of bread is one serving. Contains **one egg yolk per serving.**



## CHOCOLATE MILK EGG NOG

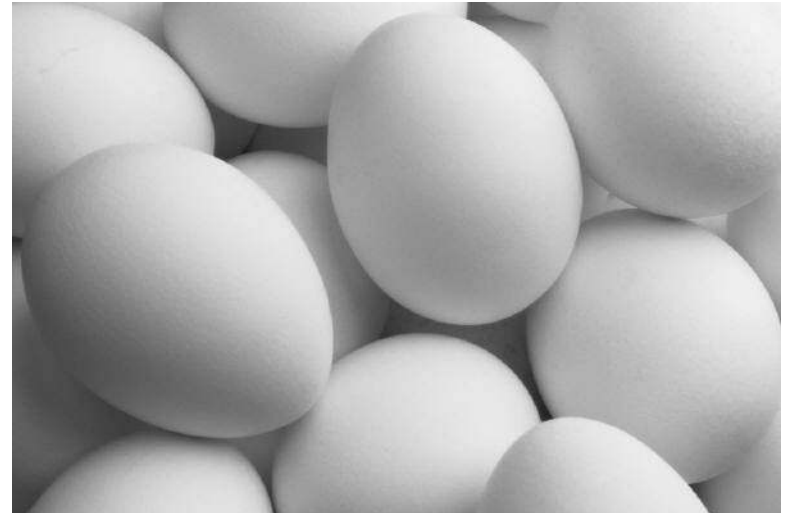
4 egg yolks  
2  $\frac{3}{4}$  cups whole milk  
3 Tablespoons Hershey's syrup  
2 teaspoons vanilla extract

Use a double boiler, or create your own by pouring 2-4 cups of water into a saucepan and place a large stainless steel mixing bowl over it. Heat the water to boiling. Beat eggs and combine mixture in the mixing bowl. Reduce heat to simmer and place the bowl over the saucepan to gently heat the mixture. Heat mixture until the temperature reaches 165°, then cook an extra 20 seconds, making sure to stir the mixture constantly. Remove from heat immediately and then refrigerate right away in a lid-tight container.

To serve, shake well before pouring into a glass. Store in the refrigerator until served. Discard any leftover mixture after 3 days.

This makes 4 servings with **one egg yolk per serving**.

## ALL ABOUT EGGS



## SHOPPING FOR WHOLE EGGS

There are a lot of choices when you are buying eggs. Egg cartons have labels with *free range*, *organic*, *vegetarian-fed*, *pasteurized*, *brown*, *white*, *grade A*, *extra-large*, *omega-3*...and the list goes on!

In general, all eggs have the same nutritional value regardless of the shell color or conditions in which the hens are raised. Eggs can be called *free-range* if the hens have daily access to the outdoors. *Organic eggs* are produced from hens fed with products grown without the aid of commercial fertilizers, pesticides, or herbicides. *Pasteurized-in-the-shell eggs* are heated just enough to destroy the presence of dangerous bacteria called Salmonella but not enough to change the properties of the raw egg. Shell color is determined by the breed of the chicken. *Brown eggs* are typically more expensive than *white eggs* because the breeds that lay them are larger and require more food. *Omega-3 enriched eggs* are produced by feeding hens enriched flaxseed feed, high in omega-3 fatty acids.



The size of the egg is determined by the age, breed, and weight of the hen as well as the hen's nutrition and environmental conditions. The net weight in ounces per dozen eggs is the standard that is used to classify egg sizes. In this cookbook, the recipes use large eggs. One large egg yolk has about 210 mg cholesterol.

## RECIPES



that have not been heated to at least 165°F. Instead, use pasteurized shell eggs, pasteurized egg products., or dry powdered egg yolk.

**Serve Safely:** Bacteria can grow rapidly in temperatures between cool (40°F) and warm (140°F). Don't let egg-rich foods sit around at room temperatures. Instead, serve cooked eggs and egg-containing foods immediately after cooking. If the product will be eaten cold, like egg nog or custards, cool it quickly after cooking by letting it sit in an ice bath or put it in the refrigerator as soon as the temperature falls to 140°F.

**Chill Properly:** Keep cooked eggs and egg-containing recipes stored in a cold refrigerator. Keep a refrigerator thermometer in your refrigerator and be sure it does not go above 40°F. Cooked eggs should not sit out for more than 2 hours. Use refrigerated hard cooked eggs within 1 week. Use frozen eggs and powdered egg yolk products within 1 year. Refrigerate leftover cooked egg dishes and use within 3-4 days.

*For more information: <http://www.eggsafety.org/consumers/consumer-faqs>*

## OTHER SOURCES OF EGG YOLK

There are other egg yolk products on the market.



**Dried Egg Yolk:** Dried egg yolk has 21 mg cholesterol per gram. Using measuring spoons and packing the yolk in and leveling off with a spoon, one tablespoon + 1 teaspoon of dried yolk is equal to 1 large egg yolk. The OHSU Bionutrition Unit buys dried (also called “powdered”) egg yolk from Oskaloosa Food Products Corporation, Oskaloosa, Iowa ([www.oskyfoods.com](http://www.oskyfoods.com), 641-673-3487). The product, Egg Yolk Solids, is sold in 25 pound shipments, and as of June 2013, costs \$5 per pound, plus shipping. A purchase order is needed with Oskaloosa, therefore individuals are unable to order directly from them. We recommend storing the product in the freezer or refrigerator. It is good for up to one year; after that, it should be thrown away. The powder can be mixed with breast milk, formula, or food. It dissolves fairly well. For using in tube feedings, we recommend mixing the yolk in a separate container with a small amount of formula and then adding this back to the larger amount of formula. The powder may mix better if the formula is warmed slightly. To avoid plugging up small feeding tubes., pour the egg yolk and formula mixture through a fine sieve to catch any lumps. Some parents report that it is easiest to use a syringe to give a small amount of formula mixed with powder as a bolus feed before the regular feeding.

**Liquid Eggs:** Frozen or refrigerated liquid egg yolks or whole eggs are another option. These products primarily exist for use in the food service industry, but your grocery may already carry a similar product or may be able to obtain them for you. Brand names to look for include Pappetti's, SunnyFresh, and Stiebrs Farm. Egg substitutes should not be used because they contain no cholesterol.

## COOKING TIPS

**Boiling Eggs:** Here is the tried-and-true Bionutrition Method for Boiled Eggs: Place eggs in pan and cover with cold water. Salt may be added if you wish. (Some bionutrition employees claim that this makes the eggs easier to peel.) Bring water to a boil. As soon as it reaches a boil, remove pan from heat and turn off the burner. Cover pan and let sit for 11 minutes. Immediately plunge eggs into cold water to stop the cooking process. Peel & enjoy!

**Separating Eggs:** Most of our recipes call for egg yolks separated from the egg whites. This is done to provide the maximum amount of cholesterol since the egg whites contain no cholesterol. Most people know the traditional method of passing the yolk from one shell-half to another while the white slips off. Two other methods of separation are described below. Eggs are always easiest to separate when cold.



**By hand:** If you are not afraid of getting your hands dirty (and cold!), separating with your fingers is an easy option. Wash and rinse your hands thoroughly, then gently break an egg into your cupped hand. Allow the white to spill through the gaps between your fingers into the sink or another bowl before dropping the yolk into your mixing bowl.

**By egg separator:** Many inexpensive egg separators are available. To separate, tap the midpoint of the egg sharply against a hard surface. Holding the egg

over the bowl for whites, pull the shell apart gently. Let the yolk nestle into the center of the separator and the white drop through the slots into the bowl beneath. Transfer the yolks one by one into the mixing bowl before separating the next egg.

## EGG FOOD SAFETY

To avoid the possibility of foodborne illness, fresh eggs must be handled carefully. Even eggs with clean, uncracked shells may occasionally contain bacteria called *Salmonella* that can cause an intestinal infection. The most effective way to prevent egg-related illness is by knowing how to buy, store, handle and cook eggs (or foods that contain them) safely.

**Buy Right:** Buy eggs only if sold from a refrigerated case. Open the carton and make sure the eggs are clean and not cracked. Refrigerate promptly at home. Store in original carton and use within 3 weeks.

**Keep Everything Clean:** Wash hands, utensils, equipment, and work surfaces with hot, soapy water before and after they come into contact with eggs and egg-containing foods.

**Cook Thoroughly:** Cook eggs until yolk and white are firm. Scrambled eggs should not be runny. Casseroles and other dishes containing eggs should be cooked to 160°F. Use a food thermometer to be sure.

**Avoid Raw Eggs or Egg Yolks:** Do not eat or feed your child beverages or dishes with raw fresh eggs