

TASTING SUCCESS WITH CUTTING SALT

Twenty-Five Science-Based Strategies & Culinary Insights

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ABOUT THIS PUBLICATION

This publication is the result of a longstanding collaboration between the department of nutrition at Harvard School of Public Health (HSPH) and The Culinary Institute of America (CIA) in presenting the very successful initiative, “Worlds of Healthy Flavors,” that annually brings together top nutrition scientists, volume foodservice chefs and operators, and influential culinary experts. With a shared vision that healthy eating and lifestyles are fully compatible with delicious, flavorful food and cooking, *Tasting Success with Cutting Salt* joins these two perspectives from HSPH’s department of nutrition and CIA—nutrition science and public health on the one hand, and culinary insight on the other—in advancing sodium reduction goals and strategies.

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Tasting Success with Cutting Salt

TWENTY FIVE SCIENCE-BASED STRATEGIES & CULINARY INSIGHTS

INTRODUCTION

The Institute of Medicine's newly released report, *Strategies to Reduce Sodium Intake in the United States*, focuses on big-picture strategies for reining in America's salt habit. (1) Although the report's recommendations represent an essential step forward, there are many things that individuals, chefs, and organizations can do right now to reduce sodium. Consumers can use these tips when they cook at home, shop in the supermarket, or choose a meal at their favorite restaurant. Chefs and product developers can tap these ideas in the professional kitchen. Media representatives, healthcare professionals, and food marketers can mine this list for ways to promote positive and delicious nutrition messages about cutting salt.

Many of these guidelines offer a "stealth health" approach to sodium reduction—ways that sodium can be reduced with no change or minimal change to consumer food experiences or choices. Others suggest ways to rebalance and re-imagine food choices as well as introduce new foods that can easily translate into satisfying meals. These culinary insights are in addition to valuable food science research already underway on the role of salt in foods and salt substitutes. The good news is that most of these guidelines support broader diet recommendations for good health.

No sodium reduction effort will succeed if it undermines the flavor of our foods and the role that food plays in our lives. That's why we urge a wide-ranging, innovative approach to sodium reduction on the part of all stakeholders, one that puts as much emphasis on culinary insight, taste, and flavor as on the scientific and public health imperatives.

THE BIG PICTURE: TOTAL DIET FOCUS

1. Downsize your portions: You'll scale back the sodium (and the calories).

A good rule of thumb is that the more calories a meal has, the more sodium it has. Two out of three Americans need to lose weight. So skip the supersize. Share a dish when dining out. You can cut your salt—and trim your waist.

2. Produce first: Fill half your plate with fruits and vegetables.

Our bodies need more potassium than sodium. But most Americans' diets are just the opposite, which can contribute to high blood pressure. Fruits and vegetables are naturally low in sodium, and many fruits and vegetables are good sources of potassium. Filling your plate with them will boost your potassium and shift the sodium-potassium balance in your favor. And chefs and product developers would do well to think about produce first when designing menus. The next time you are tempted to say, "I won't like lower sodium foods" think of biting into a crunchy apple, juicy orange, or sweet strawberry. Not missing the sodium?

3. Get fresh: Choose unprocessed and minimally processed foods.

Processed foods and prepared foods are the greatest sources of sodium in the American diet (75 percent by some estimates). By choosing fresh foods, you can decide how much or how little salt to add. Processed, cured meats typically have much more sodium than fresh meats, and canned vegetables usually have more sodium than fresh vegetables. Going easy on processed foods makes sense for general good health, as processing often leads to a loss of nutrients and other benefits of whole or semi-intact foods.

4. Embrace healthy fats and oils: A savory strategy to lower sodium levels.

Unfortunately, the big low-fat and no-fat product push in the 1990's wasn't rooted in sound science. Many well-meaning product developers cut both the good and bad fats out of formulations, and in order to maintain consumer acceptance of their products, they were forced to increase levels of sugar and sodium. So breathe easy, and skip most fat-free salad dressings and other similar products, and you'll be doing your blood pressure a favor. One more good news tip: Fat in the diet doesn't make you fat! Extensive research now confirms that low-fat diets are no more effective in weight loss than moderate- to high-fat diets. Rather, it's all about total calories and energy balance. So embrace healthy fat: It might be just the ticket to make produce-centric (and sodium-reduced) cooking more appealing.

SALT, PERCEPTION, AND PSYCHOLOGY

5. Stealth health: The most delicious approach to sodium reduction.

For many foods and preparations, the average person can't detect moderate to substantial differences in sodium levels, including reductions of up to as much as 25 percent. That's great news. In fact, many food manufacturers and restaurant companies have already made or are in the process of making substantial cuts in sodium—some all at once and some over time—that their customers will not be able to detect.

6. Retrain your taste buds: You can learn to savor foods with less salt.

Studies have found that we can shift our sense of taste to enjoy foods with lower levels of sodium. One key to success: Make the changes gradually and consistently over a period of time, rather than trying to cut back by a large amount all at once (unless of course you find that an immediate 25 percent reduction in sodium doesn't undermine your enjoyment of a particular food). Try this trick: Combine a reduced sodium version of a favorite product (e.g., vegetable soup) with a regular version in proportions that gradually favor the reduced sodium version. As time goes on, you won't miss the salt.

7. Try a little romance: Sea salt and other secrets of the healthy kitchen.

Most sea salt has about the same level of sodium as other salts, but who doesn't perk up with the mention of sea salt? It sounds like your favorite chef has taken charge of your dinner. You don't need to spend the money on sea salt, just remember that we eat with our eyes and ears, not just our mouths—and we make decisions about how much we are likely to enjoy a given food long before it gets to our mouths. So instead of calling something "low sodium," try language like "with a touch of sea salt," "citrus-infused" or "garlic-scented," and you'll likely entice more people to taste and enjoy reduced sodium dishes. Finally, for those who think "low

sodium" is the exact opposite of a compelling, positive message, remember that there is a big difference between well-prepared low-sodium foods and badly executed low-sodium foods. Bad cooking is just bad cooking, independent of sodium levels.

BUYER BEWARE: KNOW YOUR SALT FACTS, ASK QUESTIONS

8. Target high-volume sodium sources: Prioritize your efforts.

Know which ingredients and individual foods are high in sodium, and eat them sparingly. Understand which categories of foods contribute the most sodium to our diets through repeated daily and weekly consumption. Salt is ubiquitous in the American diet, but this top 10 list of food sources of sodium in the U.S. diet is a good place to focus. The list is based on the combination of each item's sodium content and the frequency of consumption. (2) Choose carefully when buying foods in these categories and/or eat less of these items:

- | | |
|---|---|
| 1. Meat pizza
2. White bread
3. Processed cheese
4. Hot dogs
5. Spaghetti with sauce | 6. Ham
7. Catsup
8. Cooked rice
9. White rolls
10. Flour tortillas |
|---|---|

9. Scan the label: Look for foods with less than 300 milligrams of sodium per serving.

Canned, boxed, frozen, and prepared foods can be high in sodium. Check the label for sodium amounts and choose foods that have less than 300 milligrams per serving. But pay attention to serving sizes, as they are often unrealistically small. A good rule of thumb for label reading is to look for no more than one milligram of sodium per one calorie of food. You may be surprised to find foods that are high in sodium but that don't list "salt" in the ingredients. That's because there are other forms of sodium used in food processing, and these all contribute to the total amount of sodium listed in the Nutrition Facts. Examples of these ingredients include monosodium glutamate, sodium citrate, sodium bicarbonate, and sodium alginate.

10. Compare, compare, compare: Sodium levels vary widely for the same or similar grocery items.

Compare brands of processed food, including breads, cured meats, cheeses, snack foods, and other foods, choosing those with the lowest levels of sodium that still taste good. You'll find that there's a surprising degree of variation from brand to brand, since some food manufacturers have already made great strides toward cutting the sodium levels in their products—and others never added as much sodium in the first place.

11. Watch out for hidden sodium: Looks—and taste—can be deceiving.

"Fresh" and "natural" meats and poultry may be injected with salt solutions as part of their processing, and manufacturers are not required to list the sodium content on the label. The best way to find out whether your

favorite brand has been treated with a salt solution is to ask the grocer or butcher, or to call the toll-free consumer hotline on the product's label. Some foods that are high in sodium may not taste especially salty, such as breakfast cereals, bakery muffins, energy drinks, and sports drinks.

12. Scan the menu, speak to your server: Seek low-salt menu options when dining out.

At the upper end of the spectrum, some chain restaurant and fast-food meals can top 5,000–6,000 milligrams of sodium per serving. It is common to find sandwiches and fast-food entrées with 2,000–2,500 milligrams of sodium per serving—as much as or more than a day's recommended sodium intake. With foodservice (or food away from home) now accounting for nearly 50 percent of the consumer food dollar, both foodservice and food manufacturing—together with consumers and home cooks—need to be part of the solution to the sodium reduction challenge. Some tips for consumers: Sodium levels can vary widely from one dish to another and from one restaurant to another. Check restaurant websites for sodium information before you head out, or ask your server to steer you to low-salt choices. Save high-salt choices for very limited special occasions. Increasingly, chain restaurants are responding to calls for sodium reduction, so watch for news about such initiatives by your favorite restaurant group.

FLAVOR STRATEGIES AND CULINARY INSIGHTS

13. Farming for flavor: A new health imperative.

We should recognize that the national conversation about salt and sodium should not be just about salty taste and sodium reduction, but about flavor in our foods in general. For much of the 20th century, our national food and agricultural focus has been on quantity and value—and quality often as a function of consistency, appearance, safety, convenience, and shelf life. If natural flavor sometimes suffered, there was always fat (often saturated fats and trans fats), sugar, and salt to take up the slack—all high-impact, low-cost flavor enhancers that most people love. But at a time when we have “over-delivered” on the promise of affordable calories, and both salt and sugar (and all refined carbohydrates) are turning out to have serious negative health consequences, we need to refocus our attention on enhancing natural flavors. As a practical matter, this means growing more flavorful tomatoes at the same time we try to reduce the sodium in tomato soup.

14. Know your seasons, and, even better, your local farmer.

Shop for raw ingredients with maximum natural flavor, thereby avoiding the need to add as much (if any) sodium. Seek out peak-of-season produce from farmers' markets and your local supermarket.

15. Spice it up: Simple flavor additions can enhance food with less salt.

One of the easiest ways to reduce the need for added salt is through the use of ingredients such as spices, dried and fresh herbs, roots (such as garlic and ginger), citrus, vinegars, and wine. From black pepper, cinnamon and turmeric to fresh basil, chile peppers, and lemon juice, these flavor enhancers create excitement on the palate—and can do it with less sodium.

16. Go nuts for healthy fats in the kitchen.

As chefs and home cooks know, fat is a great carrier and enhancer of flavor. Using the right healthy fats—from roasted nuts and avocados to olive, canola, soybean, and other oils—can help make up for any flavor

loss from using less salt. Some healthy fats contribute their own flavors (think peanut butter and extra virgin olive oil), while other fats help to juice up flavor in pan searing and frying. For creative cooks, roasted nuts ground with spices extend and leverage small amounts of salt, such as in the Middle Eastern spice mixture dukkah.

17. The flavor multiplier: Use “umami” to boost flavor.

Umami (pronounced oo-MAH-me), or savoriness, is the so-called “fifth taste” that in recent years sensory scientists have brought into the mainstream of academic research. Foods that are naturally high in a compound called “L-glutamate” trigger our “umami” taste receptors. Cooked chicken, fish, beef, and soybeans are naturally high in umami, as are mushrooms, tomatoes, seaweed, carrots, and Chinese cabbage. Incorporating these foods into meals can add a delicious depth of flavor without adding salt. Some foods that are high in umami are also high in sodium, including soy sauce, fish sauce, aged cheeses, miso, and anchovy paste. The cook’s best strategy: Use these ingredients in small amounts instead of adding salt, reducing the overall sodium in the dish.

18. Sear, sauté, and roast: The right cooking method can help you spare the salt.

Take the time to learn some simple cooking techniques that can make your cooking less reliant on sodium. Searing and sautéing foods in a pan builds flavor (try searing umami-rich mushrooms in a hot pan with oil, and now you have a double flavor-building impact!). Roasting brings out the natural sweetness of many vegetables and the savoriness of fish and chicken. Steaming and microwaving tend to dilute flavors; perk up steamed dishes with a finishing drizzle of flavorful oil and a squeeze of citrus.

19. Wait! Be careful how you spend that sodium budget.

Save your “sodium budget” to enhance the flavors of produce, whole grains, nuts and legumes, and other healthy ingredients versus “overspending” it on salty snacks, heavily processed food, high-sodium fast foods, and other foods that we should be consuming in smaller amounts. We all love treats, and most of us have to eat on the run occasionally (that’s why they call it “fast food”). But if we do this too often in a way that “blows” our sodium budget, we come up short without enough tools to enhance the flavors of healthy, everyday cooking. The best intentions to reduce sodium are definitely going to run aground when too many high-sodium ingredients are aggregated in the same dish. Rethink that double bacon cheeseburger or the breakfast special with ham and sausage.

20. Condiments and sodium: A lighter hand can solve this caper.

Pickles, capers, cured meats, grated aged cheeses, mustard, catsup, soy sauce, hot sauce, smoked fish, and other condiments and specialty foods all bring added satisfaction to the table. There is no need to give up condiments, which in many cases represent culinary traditions that are centuries old. In some cases, reduced sodium versions of these are now available; in other cases, we can just use them more sparingly.

21. Go global: Discover a world of ideas for flavor development.

Look to global culinary traditions—from Europe and the Mediterranean, Latin America, Asia and Africa—for healthy ideas to transform fruits, vegetables, and other healthy ingredients into exciting flavors and meals. Because many of these world culinary traditions build up flavor in such novel, complex, and intriguing ways, cooks are under less pressure to use as much sodium. Sometimes these flavors will appear in the U.S. or their

native countries in higher sodium versions, but the culinary ideas for lower sodium strategies are still there, embedded in traditional cultural approaches to flavor development that go way beyond fat, salt, and sugar (our all-too-frequent default flavor enhancers in the U.S.).

22. Double jeopardy: How to cook without layering on the sodium.

Avoid “double salting” your foods when cooking, and look for ways to pair salted flavors with unsalted or under-salted foods, especially fresh produce. If you are adding a little cheese to your salad, you don’t need much or any salt in your dressing. If you are adding a ham bone to a soup pot, lighten up on the sodium for the rest of the soup. In a sandwich, try adding sliced cucumber instead of pickles. A pot of brown rice or whole grain pasta doesn’t need to be salted if you are serving it with other adequately seasoned items or sauces. And an adequately seasoned crust or condiment may lessen the need for salting the rest of the dish.

23. Rinse, wash, and dilute: You can easily cut some of the excess sodium in processed foods with no loss of flavor.

Draining and rinsing canned foods can dramatically cut their sodium levels—in the case of canned beans, cooks can cut 40 percent of the sodium with this trick. When making soup, dilute reduced sodium chicken broth with water or wine instead of using it full strength, and float in some additional vegetables and herbs.

24. Whole grains: Beyond bread and sandwiches.

Collectively, because we eat so much of it, bread is one of the largest contributors of sodium to our diets. Even whole grain bread, while a healthier choice than white, can contain considerable sodium. But only part of the sodium in bread is for taste: Much of it is used to help the bread-making process and preserve the final results. You can skip that extra salt when you use these marvelous whole grains by themselves. Try a Mediterranean-inspired whole grain salad with chopped vegetables, nuts, and legumes, perhaps a small amount of cheese, herbs and spices, and healthy oils and vinegar or citrus. You can enjoy many of the same flavors you love in a sandwich, but in a delicious new form that has much less sodium. For breakfast, cook up steel cut oats, farro, or other intact whole grains with a generous amount of fresh or dried fruit, and you can skip the toast (and the extra sodium).

25. Kick the “auto-salt” habit: Taste before you salt.

Too many of us have the habit of reaching for the salt shaker as soon as our plates are put in front of us. Try taking the salt shaker off the table and making it available “upon request only.” Always, always taste your food before you salt: Maybe you don’t need the extra sodium. And in the kitchen, add salt late in the cooking process. Foods release their flavors (and salt, in the case of salted ingredients) during the cooking process, and “palate fatigue” on the part of the cook can cause over-salting if this is undertaken too early.

MORE RESEARCH: BY SCIENTISTS, CHEFS, AND OTHER “FLAVOR STAKEHOLDERS”

Given how vital sodium reduction is, and how embedded sodium is in our food supply, culinary techniques, flavor strategies, manufacturing methods, and marketing assumptions, it is essential that we conduct additional research to shed more light on which sodium reduction strategies are most effective. The challenges here are far more complex than they were for trans fats, which are more easily isolated and replaced in the food supply. In addition to food science and engineering fixes to the high-sodium problem, we need to engage

chefs, menu developers, consumer opinion researchers, and a wide range of flavor experts in developing and pursuing key research questions. With the benefit of this research, we will be better positioned to create reduced sodium flavors and food choices that consumers find not just acceptable, but compelling.

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FOR MORE INFORMATION

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