

How can a person turn a modestly unhealthy diet into a consistently healthy one?

The Organic Center's new "Nutritional Quality Index" (TOC-NQI) and our "Dietary Risk Index" (DRI) make it easier to find answers.



Transforming Jane Doe's Diet: A Closer Look at the Health Benefits

MEET JANE DOE

Jane Doe and her husband are looking forward to starting a family in the near future, and Jane is paying close attention to her health and nutrition. She is also taking steps to avoid exposure to chemicals that might impact her pregnancy and the development of her child.

Jane studied her diet at the U.S. Department of Agriculture's (USDA) "MyPlate" website and decided to make some changes. To lower her overall calorie intake while also improving her nutrition, she is seeking out nutrient-dense foods—foods high in nutrients per calorie consumed. She also is switching to mostly organic fruits, vegetables, juices, and grain-based products, to reduce her daily intake of pesticide residues.



Jane's Stats

Age: 30

Weight: 155 lbs

Height: 5'5"

Body Mass Index: 25.8 (right at the cusp between normal and overweight)



The Organic Center's "Dietary Risk Index" (DRI) quantifies the pesticide dietary risks for a food based on its frequency of residues, average residue levels, and pesticide toxicity.

TOC's "Nutritional Quality Index" measures how fully a given food or daily diet provides the recommended amounts of 27 essential nutrients.



Jane Doe's "Before" Diet

Breakfast

2 slices of white enriched toast, with butter and strawberry jam
Glass of milk
Coffee with creamer

Lunch

2 slices of pepperoni pizza
Nonfat blueberry yogurt
Soda

Dinner

Spaghetti with meatballs and tomato sauce
Salad with iceberg lettuce, tomato and cucumber, with French dressing
Half a slice of apple pie

Eight food choice changes were made in Jane Doe's "After" diet --

1. Organic whole wheat bread instead of white bread
2. Peanut butter instead of butter
3. Fresh, organic strawberries instead of strawberry jam
4. Plain yogurt topped with fresh organic blueberries instead of fruit-filled yogurt
5. Organic tomato juice instead of a lemon-lime soda
6. 50% organic whole wheat pasta instead of white pasta, and organic spaghetti and salad ingredients
7. One whole organic apple instead of apple pie
8. Light cream instead of coffee creamer

In addition to these eight changes, three foods were added in Jane's "After" diet --

1. Six ounce serving of orange juice added in breakfast
2. Peeled organic kiwi added as a snack
3. Organic green bell peppers added to spaghetti at dinner

Show Me the Numbers

Health Benefits of Smart Food Choices

Making smart food choices need not be difficult, nor are heroic sacrifices necessary. Jane switched to comparable but healthier alternatives and added four new fruit and vegetable items. Overall she is still eating the same foods she enjoys, over half of the 17 items in her "Before" diet are unchanged.

Through smarter food choices, Jane Doe increased her nutrient intake by 79% and reduced her pesticide risk by two-thirds.

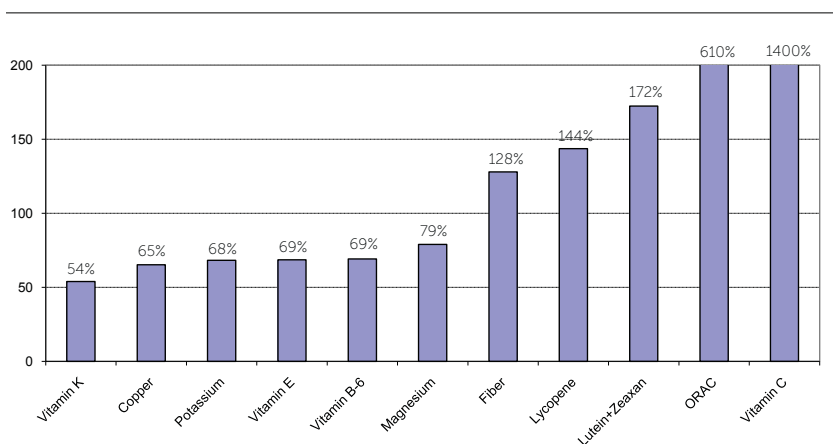
Small steps taken wisely add up to surprisingly major progress. Her daily intake of fruits and vegetables rises from 3.6 to 12.3 servings and now accounts for 57% of her "MyPlate," more than USDA's recommended 50%. On top of this, she now consumes 10 fewer calories daily.

Even more striking is the **79% improvement** in Jane Doe's overall intake of 27 nutrients, as measured by TOC-NQI.

Taking a closer look, Jane's "Before" diet delivers less-than-recommended quantities of 12 of the 27 nutrients. Intakes of four nutrients are less than one-half her Recommended Dietary Allowance (RDA), and for antioxidant activity as measured by the ORAC assay (Oxygen Radical Absorbance Capacity) and vitamin D, her intakes are less than **one-quarter** of recommendations. Nutrient intake deficiencies of this magnitude, if sustained over a long period, will almost certainly have negative health consequences, particularly among pregnant and nursing women and children.

With Jane's "After" diet, only seven nutrients are below the applicable RDAs, and only one is less than 50% of the RDA (vitamin D, accessible via sunlight as well). Moreover, nine nutrients are present at twofold or more the RDA. The increase in specific nutrient intakes is also impressive (see chart below).

Increase in Nutrient Levels In Jane Doe's "After" Diet
[100% increase = double the level; 200% increase = triple the level]



This substantial increase in overall nutritional quality is good news for Jane's overall health. It will markedly reduce her odds of developing diet related health problems, help set the stage for a healthy pregnancy, and boost her immune system



How Much Does Switching to Organic Impact Pesticide Risks?

On an average day, Jane Doe's "Before" diet exposed her to 17 pesticide residues (not counting drinking water), based on pesticide residue data released annually by the USDA. Using the Center's "Dietary Risk Index" (DRI), we quantified her pesticide dietary risks based on the frequency of residues, average residue levels, and pesticide toxicity. The 17 residues in her "Before" diet pose combined dietary risks of 2.0.

With 12 organic foods or ingredients in her "After" diet, the number of residues in her daily diet drops from 17 to 5, and her combined DRI value drops by over two-thirds to 0.62, encouraging enough, but there is more!

Smart food choices can deliver a trio of benefits over a lifetime.

Despite more than tripling her servings of fruit and vegetables, her total DRI score stemming from just the fruits and vegetables in her diet dropped from 0.44 per serving, to only 0.036 per serving. By switching to organic fruits and vegetables, Jane reduced her pesticide risk per serving by 12-fold!

Jane Doe's smart food choices place her on a healthy weight-management trajectory, enhance her likelihood of a healthy pregnancy for her and her child, and markedly reduce the odds that pesticide exposures might disrupt or impair her child's development--a trio of benefits with potential to pay dividends over a lifetime, and perhaps even across generations.

Access more information on the health benefits of smart food choices at www.organic-center.org/JDD. Contact Dr. Charles Benbrook at cbenbrook@organic-center.org for more information.



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sometimes the greatest ideas are the simplest.

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