

What should we eat?

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What should we eat? And how much?

These are among the most basic questions we face as human beings

There's been lots scientific research, particularly in the past four decades

What do we know?

Outline

"Nutrientism"

A better source of knowledge: dietary styles

What should we eat?

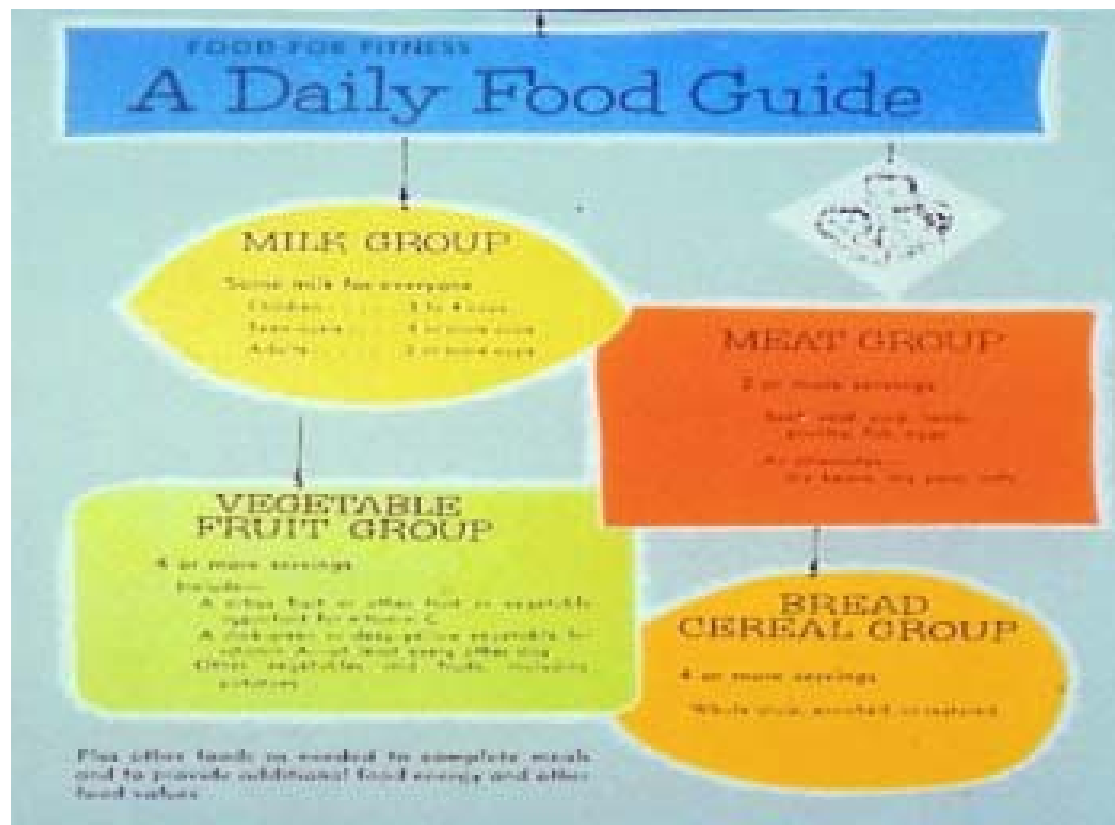
Our government's official advice

We've had a series of formal recommendations from our government

But they've tended to be determined more by powerful lobbies than by science

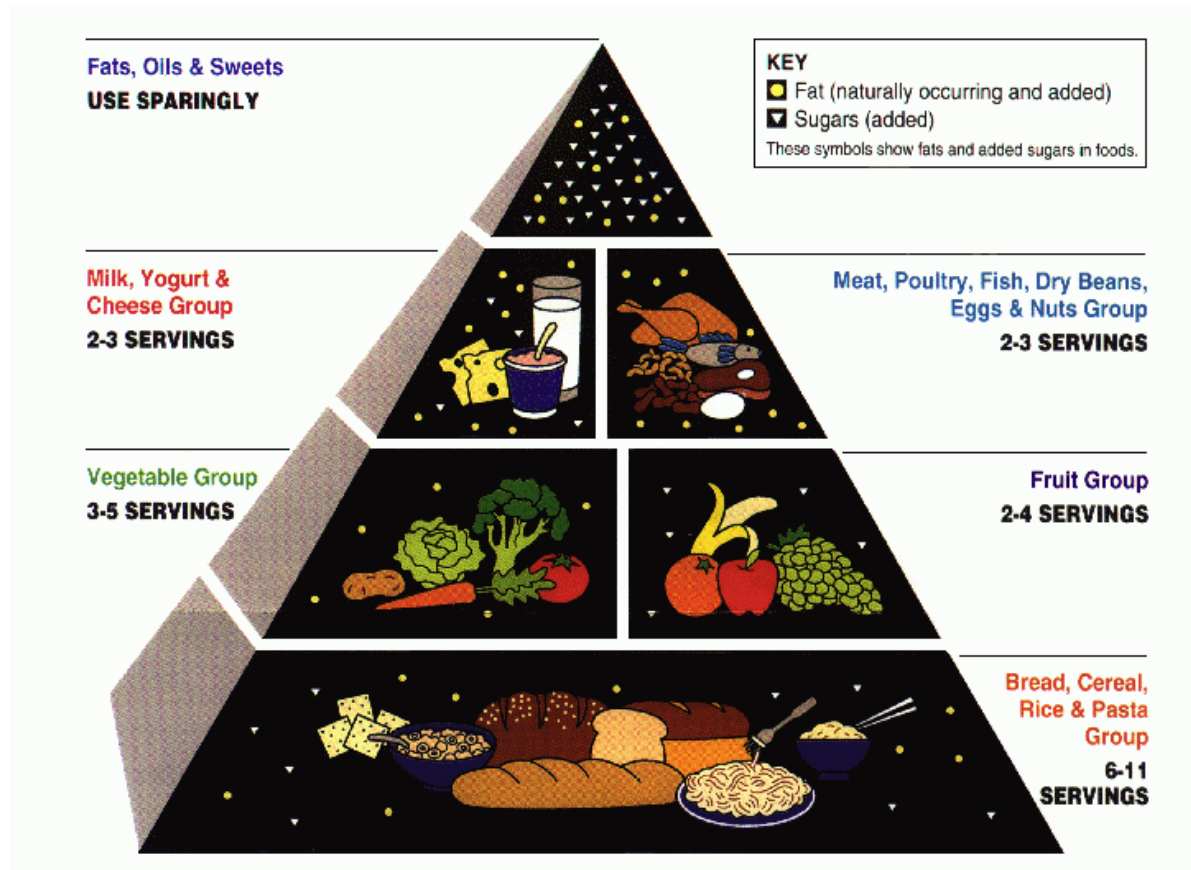
Our government's official advice

1956



Our government's official advice

1992



Our government's official advice

2011



What should we eat? And how much?

What does science tell us?

"Nutrientism"

Nutrientism

Nutrientism: the notion that the health impact of a food is a function of the particular nutrients it contains

(T. Colin Campbell and Michael Pollan refer to this as "reductionism" or "nutritionism")

Nutrientism

The standard scientific approach to understanding the health impact of food

1. Identify the nutrients (molecular components) in a food
2. Hypothesize, given existing knowledge, about what effect a particular nutrient might have
3. Test the apparent effect of the nutrient on animals
4. Do an observational study or controlled trial study on a large number of people over a period of years
5. Draw a conclusion about the nutrient's health impact

Nutrientism

The standard scientific approach to understanding the health impact of food

This is consistent with what scientists often do: break down a phenomenon into its component parts and study the independent effects of each part

Sometimes this yields very useful knowledge

But for understanding food's impact on health, perhaps not

Nutrientism

This approach has yielded an array of conclusions about what components of food are bad or good for our health

Nutrientism

Bad

Cholesterol

Fat

Saturated fat

Sugar

Salt

Carbohydrates

High-fructose corn syrup

Nutrientism

Good

Carbohydrates

Fat

Various vitamins

Fiber

Beta carotene

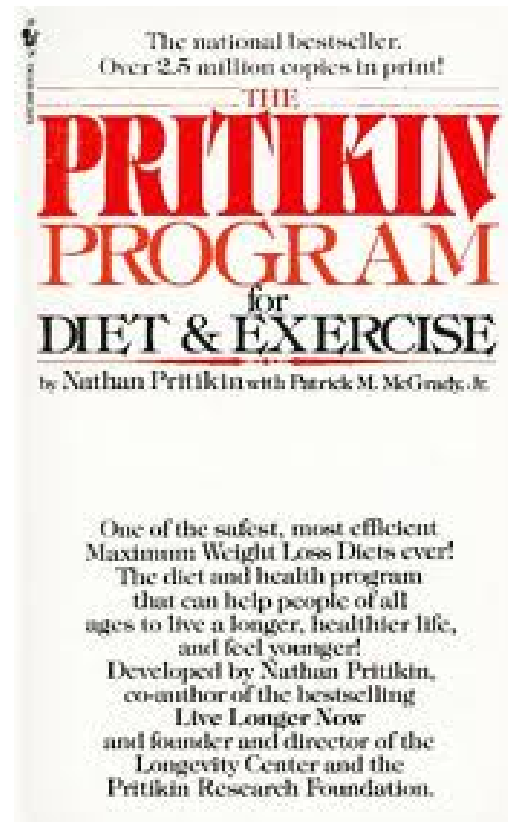
Omega-3s

Nutrientism-based dietary advice

Diet "experts" have used this information to encourage us to eat foods that minimize the bad components

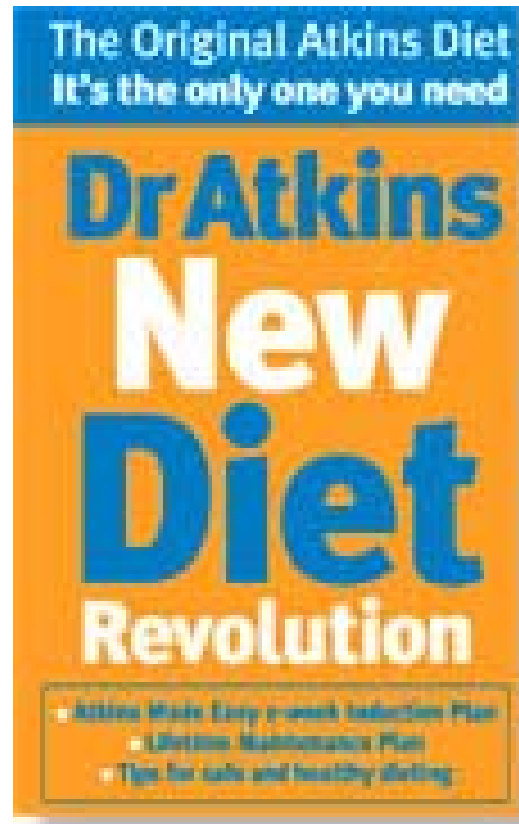
Nutrientism-based dietary advice

Less fat



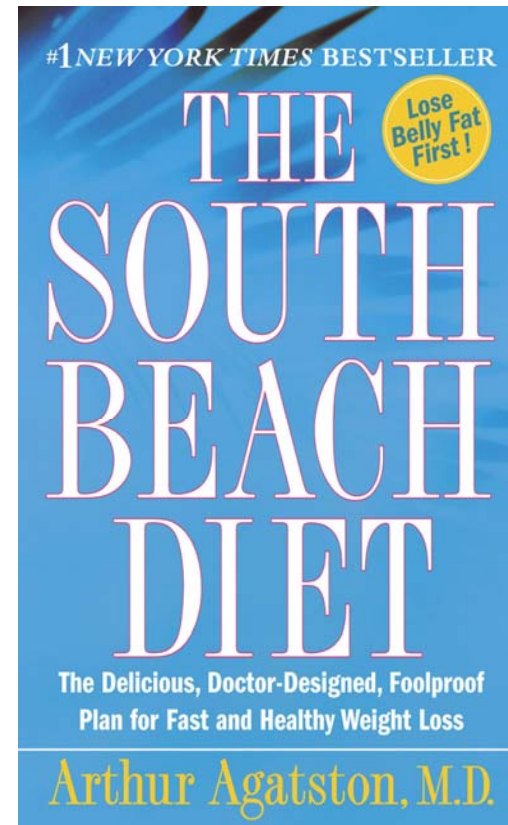
Nutrientism-based dietary advice

Fewer carbohydrates



Nutrientism-based dietary advice

Fewer "bad" fats and "bad" carbs



Food makers' use of nutrientism

Food makers exploit the nutrientism logic by creating processed foods with bad nutrients removed and/or good ones added

Food makers' use of nutrientism

Remove fat or salt



Food makers' use of nutrientism

Remove sugar



Food makers' use of nutrientism

Add fiber or antioxidants (or both)



Food makers' use of nutrientism

Add vitamins



The parts or the whole?

But a nutrient's benefit or harm may hinge on context: what kind of food it's in

The whole may be different from the sum of the parts

**A better source of
knowledge: dietary styles**

A better source of knowledge: dietary styles

Perhaps we should focus our study on dietary styles

Not nutrients

Not specific foods

Instead, examine the effects of entire eating patterns

What types of food are eaten and not eaten

How much

A better source of knowledge: dietary styles

Compare over time within the United States

In the second half of the 1800s, consumption of meat and sugar increased, and so did cancer and diabetes

During World War II, meat and dairy were strictly rationed, and the incidence of heart disease decreased sharply

Since the 1940s, average calories and consumption of meat, dairy, and sugar have increased sharply, and incidence of heart disease and diabetes have risen sharply

Since the 1970s, consumption of processed foods in the U.S. has increased sharply, and incidence of diabetes has risen

A better source of knowledge: dietary styles

Compare across countries/regions at the same point in time

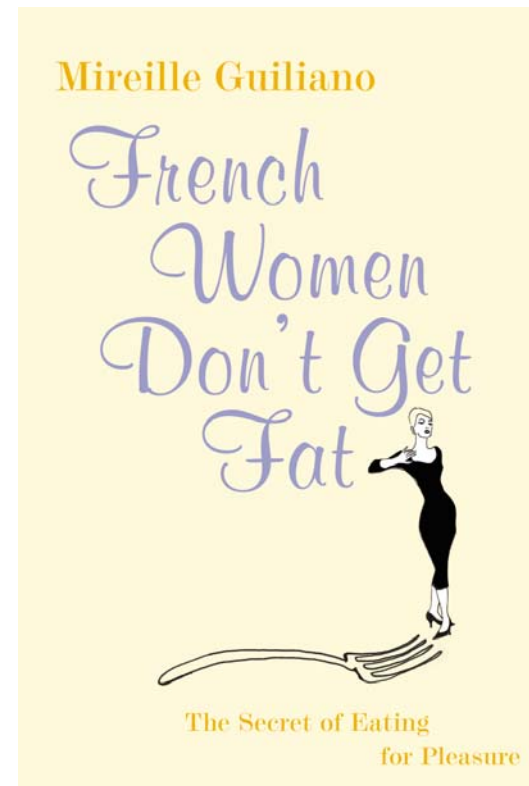
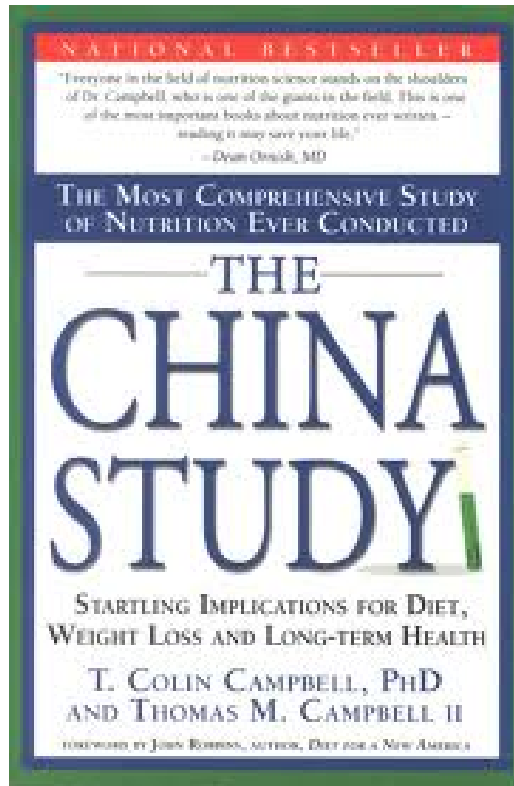
In countries and regions where fewer calories and/or less meat, dairy, and sugar is consumed — the Mediterranean, parts of Asia — there is less incidence of heart disease, diabetes, and cancer

Across regions in China, consumption of animal foods is associated with heart disease and cancer

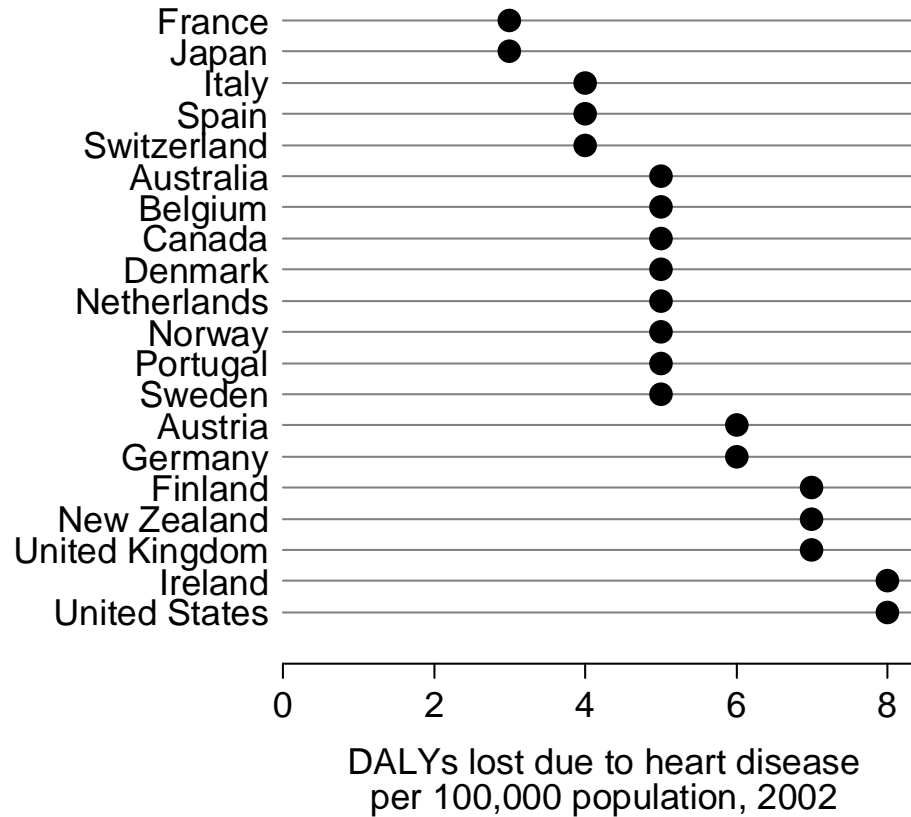
The French eat lots of fatty foods, but they eat less in quantity than Americans — small portions, usually no second helpings, little or no snacking between meals

A better source of knowledge: dietary styles

Compare across countries/regions at the same point in time



Dietary styles and heart disease



Healthy years of life lost due to death or disability resulting from heart disease. DALYs = disability-adjusted life years. This is a better indicator than deaths due to heart disease, because death rates are also affected by medical care. Data source: Judith McKay et al., *The Atlas of Heart Disease and Stroke*, World Health Organization, 2004.

A better source of knowledge: dietary styles

Compare change across countries/regions

People who move to the U.S. from nations in which heart disease, cancer, and diabetes are less prevalent become more likely to develop one or more of these maladies

A better source of knowledge: dietary styles

Eventually, it may be possible to identify specific nutrients or foods that can be particularly beneficial or harmful regardless of context

But for the moment, the best advice seems to be to focus on dietary styles rather than nutrients or foods

What should we eat?

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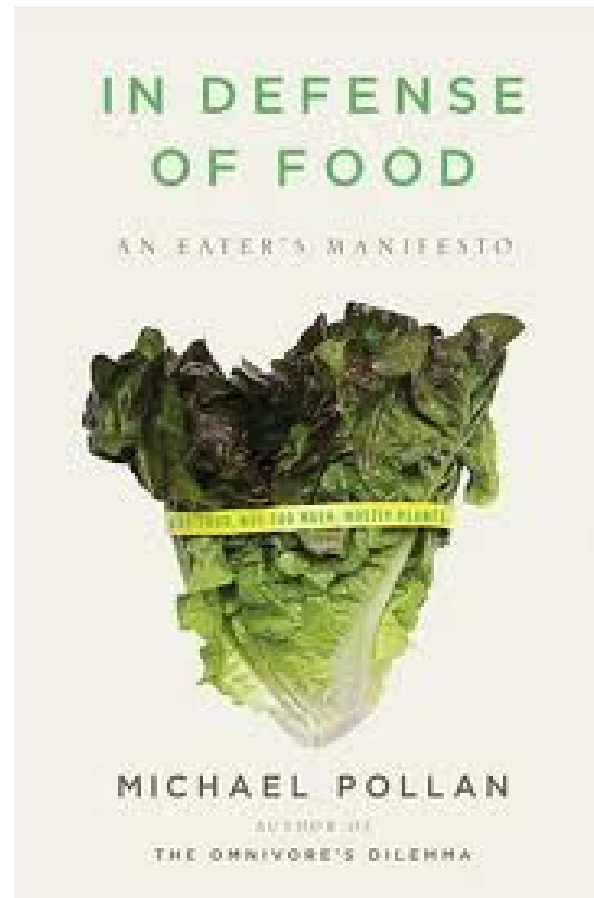
Michael Pollan concludes that dietary styles that yield healthy outcomes have three common features

Eat real (non-processed) food

Not too much

Mostly plants

What should we eat?



Dietary styles that are known to be healthy

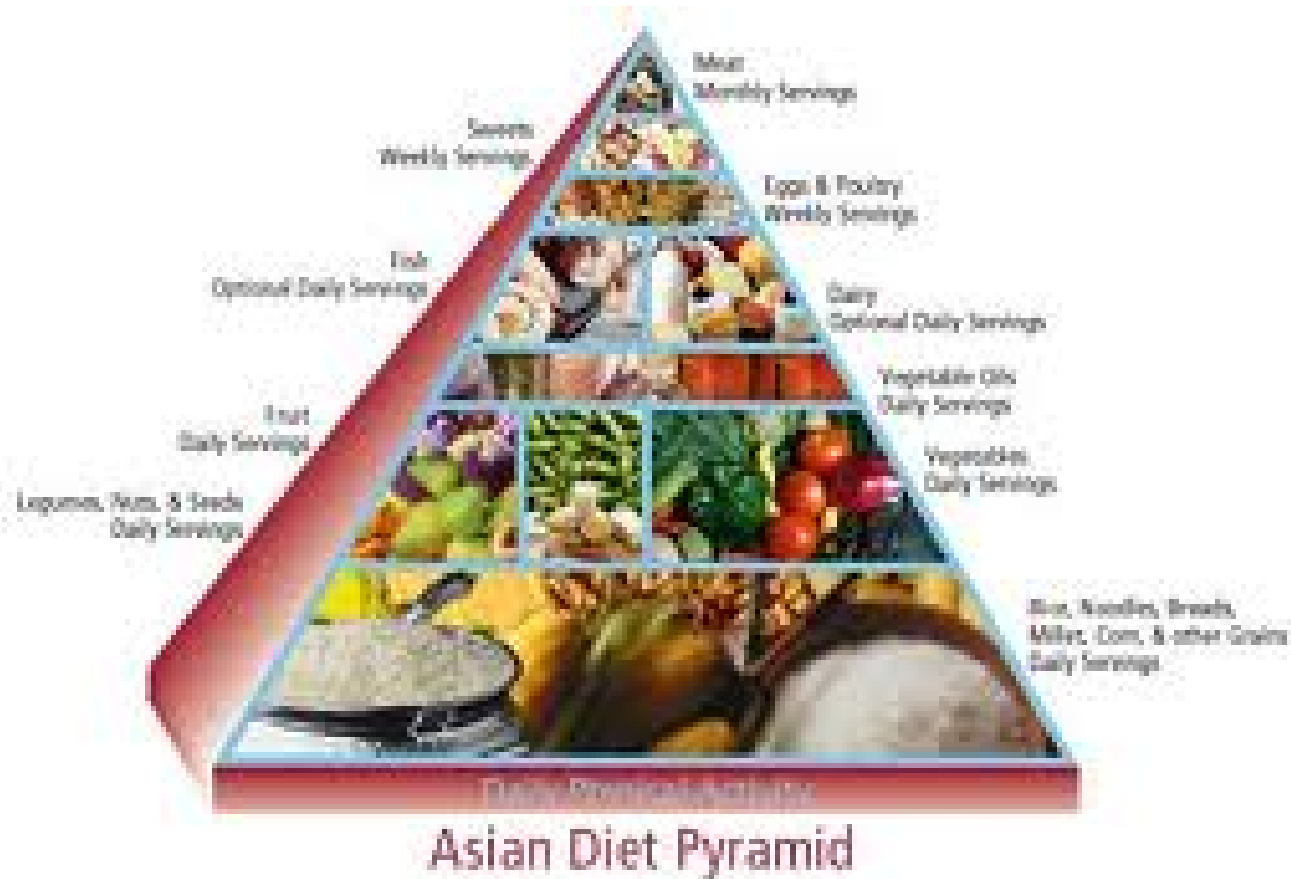
Mediterranean



Mediterranean Diet Food Pyramid

Dietary styles that are known to be healthy

Asian



What should we eat?

This surely isn't the last word on the topic