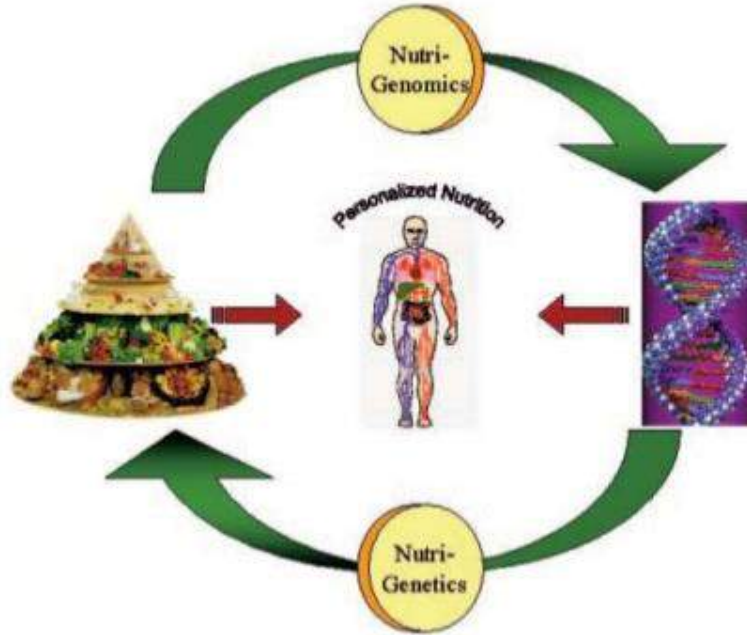


The Role of Herbs & Spices in Healthy Aging

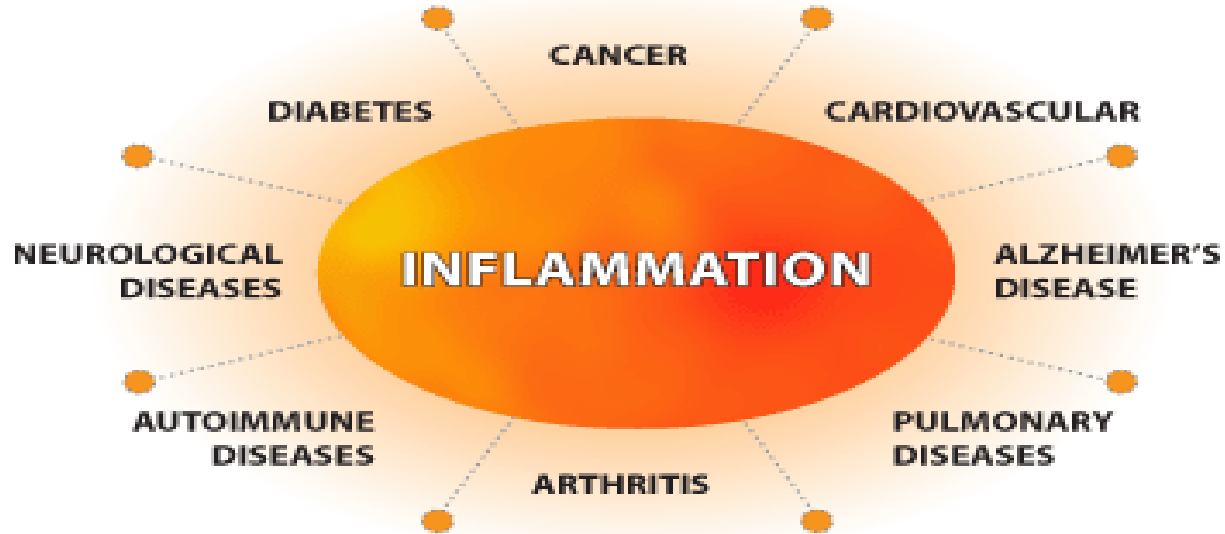
Naturally Informed: Healthy Aging Mastering
the Market

Dr. Melina B. Jampolis, M.D
Physician Nutrition Specialist

Genetics loads the gun, lifestyle pulls the trigger



Inflammation & Disease



Diet Inflammatory Index

ANTI-INFLAMMATORY FOODS/FOOD COMPOUNDS*



GARLIC



FIBER



CAROTENOIDS



OMEGA-3
FATTY ACIDS



TURMERIC



FLAVONOIDS



TEA



GINGER



MAGNESIUM

LIMIT

Inflammatory foods



- ✗ Saturated fat
- ✗ Trans fat
- ✗ Cholesterol



*Based on: Shivappa N et al. Designing and developing a literature-derived, population-based dietary inflammatory index. Public Health Nutr. 2014 Aug;17(8).

High DII and Disease

- ▶ Increased risk of getting & dying from heart disease
- ▶ Increased risk of shorter telomeres (aging marker)
- ▶ Increased risk of obesity
- ▶ Increased risk of type 2 diabetes
- ▶ Increased risk of depression
- ▶ Higher odds of getting & dying from cancer

Antioxidants

Free Radicals
Damage Cells

Antioxidants
Prevent Damage

Oxygen

Energy

Energy

Oxygen

Stress

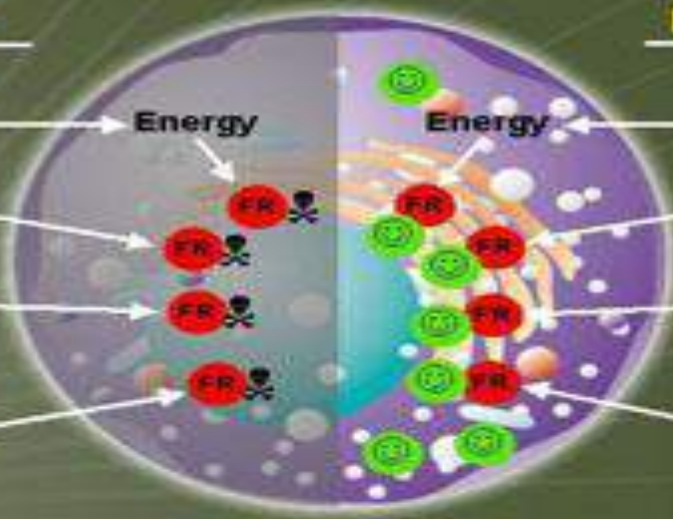
Stress

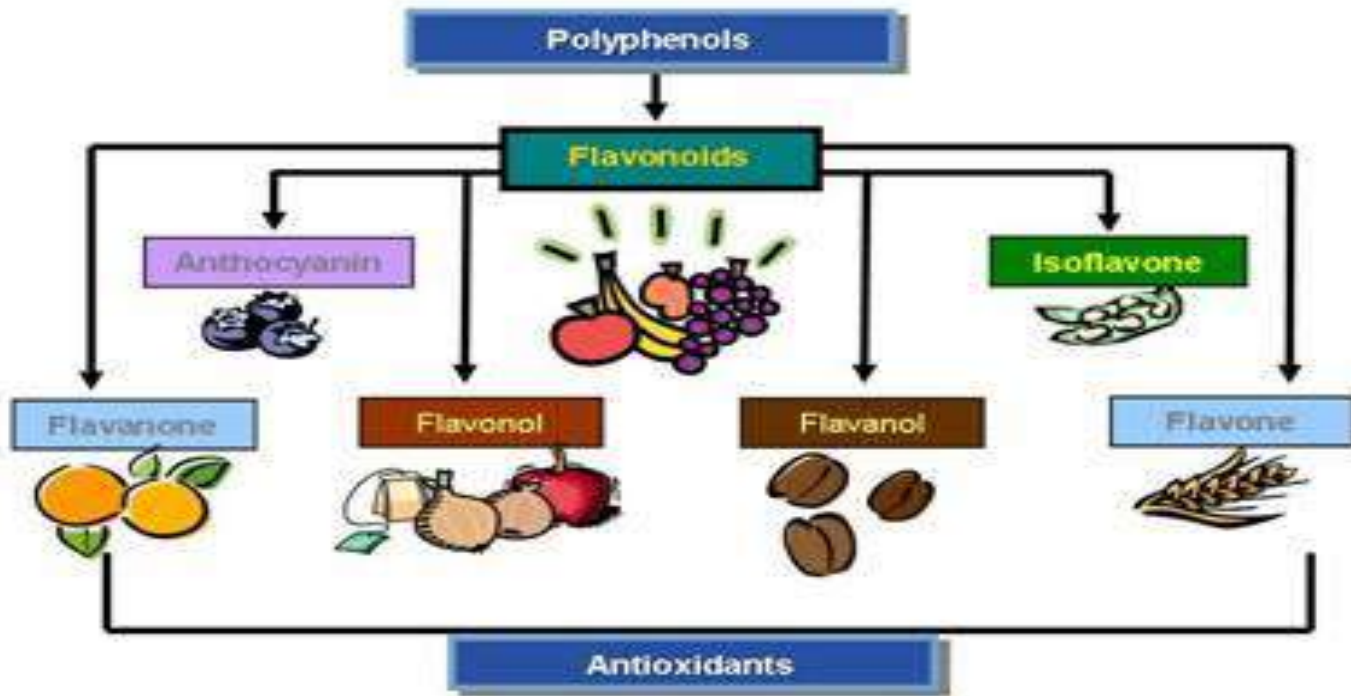
Toxins

Toxins

Drugs

Drugs





Health and Anti-Aging Benefits of Herbs & Spices

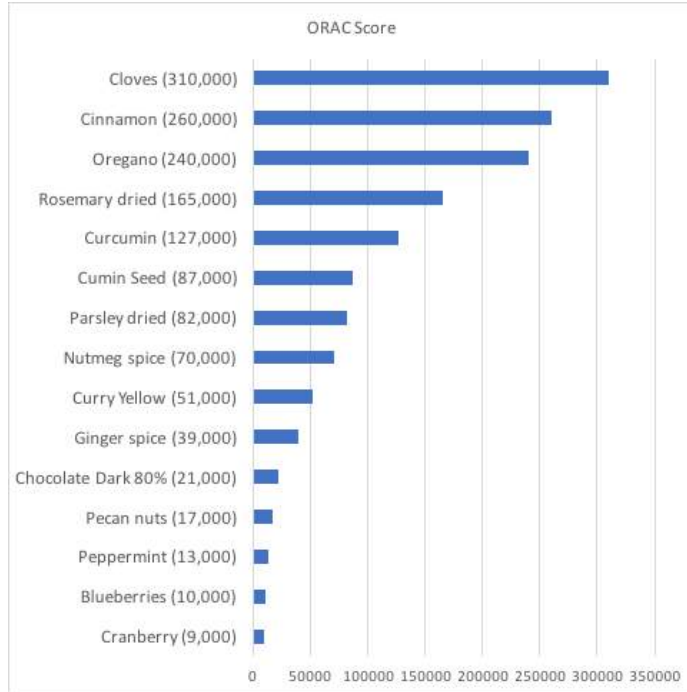
- Help fight diseases of aging
- Reduce inflammation & reduced oxidative stress both associated with longer telomeres
- Epigenetic changes = turn back the clock



Bioactive Components of Herbs & Spices

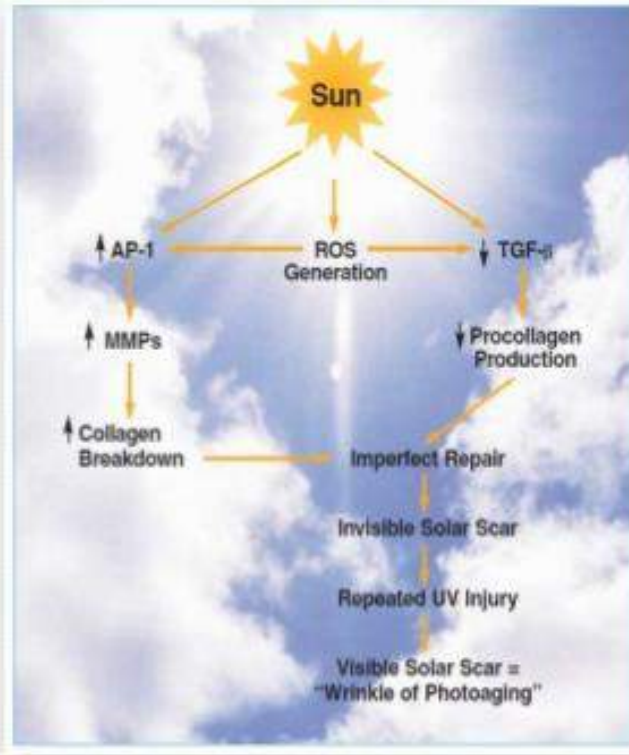
Herb/Spice	Bioactive Food Components
Allspice	Eugenol
Basil	Eugenol, apigenin, limonene, ursolic acid, methyl cinnamate, 1,8-cineole, α -terpinene, anthocyanins, β -sitosterol, carvacrol, cintronellol, farnesol, geraniol, kaempferol, menthol, <i>p</i> -coumaric acid, quercetin, rosmarinic acid, rutin, saffrole, tannin, catechin.
Cardamom	Limonene, caffeic acid
Caraway	Carvone, limonene, α -pinene, kaempferol
Cinnamon	Cinnamic aldehyde, 2-hydroxycinnamaldehyde, eugenol
Cloves	Eugenol, isoeugenol, gallic acid
Coriander	Quercetin, caffeic acid, cineole, geraniol, borneol, 1,8-cineole, α -terpinene, β -carotene, β -pinene, β -sitosterol, cinnamic acid, ferulic acid, γ -terpinene, kaempferol, limonene, myrcene, <i>p</i> -coumaric acid, <i>p</i> -cymene, quercetin, rutin, vanillic acid
Cumin	α -pinene, β -pinene, γ -terpinene, <i>p</i> -cymene, cuminaldehyde, carvone, 1,8-cineole, β -carotene, β -sitosterol, caffeic acid, carvacrol, carvaol, geraniol, kaempferol, limonene, <i>p</i> -coumaric acid, quercetin, tannin, thymol
Dill	Carvone, limonene, isorhamnetin, kaempferol, myricetin, quercetin, catechin
Fennel	α -pinene, β -carotene, limonene, quercetin, benzoic acid, β -sitosterol, caffeic acid, cinnamic acid, ferulic acid, fumaric acid, kaempferol, myristicin, 1,8-cineole, <i>p</i> -coumaric acid, quercetin, rutin, vanillic acid, vanillin
Garlic	Allicin, diallyl disulfide, allyl isothiocyanate
Ginger	Zingiberone, zingiberene, ingerol, paradol, curcumin, shagoal
Lemongrass	Farnesol, geraniol
Licorice	Glycyrrhizin
Marjoram	Eugenol, limonene, ursolic acid, 1,8-cineole, α -pinene, α -terpinene, carvacrol, farnesol, geraniol, <i>p</i> -cymene, rosmarinic acid, sterols, thymol, apigenin
Mustard	Allyl isothiocyanate, β -carotene
Nutmeg	Caffeic acid, catechin
Onion	Quercetin, dipropyl disulfides
Oregano	Apigenin, luteolin, myricetin, quercetin, caffeic acid, <i>p</i> -coumaric acid, rosmarinic acid, carvacrol, thymol
Paprika	α -tocopherol, capsaicin, dihydrocapsaicin, lutein, β -carotene, ascorbic acid, Vitamin E
Parsley	Apigenin, luteolin, kaempferol, myricetin, quercetin, caffeic acid
Pepper, Black	Piperidine, piperine, limonene, α -pinene, β -pinene
Pepper, Red (also known as chili or cayenne pepper)	Capsaicin, α -tocopherol, lutein, β -carotene, ascorbic acid, Vitamin E
Peppermint	Limonene, menthol, eriodictyol, hesperitin, apigenin, luteolin
Rosemary	Carnosol, carnosic acid, cineole, geraniol, α -pinene, β -carotene, apigenin, limonene, naringin, luteolin, caffeic acid, rosmarinic acid, rosmanol, vanillic acid
Saffron	Croctin, crocin, β -carotene, safranal, all trans retinoic acid
Sage	α -pinene, β -sitosterol, citral, farnesol, ferulic acid, gallic acid, geraniol, limonene, cineole, perillyl alcohol, β -carotene, catechin, apigenin, luteolin, saponin, ursolic acid, rosmarinic acid, carnosic acid, vanillic acid, caffeic acid, thymol, eugenol
Tarragon	Luteolin, isorhamnetin, kaempferol, quercetin, caffeic acid
Tea, Green	(-)-Epigallocatechin gallate, (-)-epigallocatechin, (-) – (+)-catechin, theophylline, gallic acid, theanine
Thyme	Thymol, carvacrol, cineole, α -pinene; apigenin, β -carotene, eugenol, limonene, ursolic acid, luteolin, gallic acid, caffeic acid, rosmarinic acid, carnosic acid, hispidulin, cismaritin
Turmeric	Curcumin, curcuminoids

Antioxidants & Anti-Inflammatory



Spices & Skin Health

- Reactive oxygen species (ROS): harmful compounds by UV exposure of skin
- “Oxidative Damage” to cellular cell walls, lipid membranes, mitochondria, and DNA.

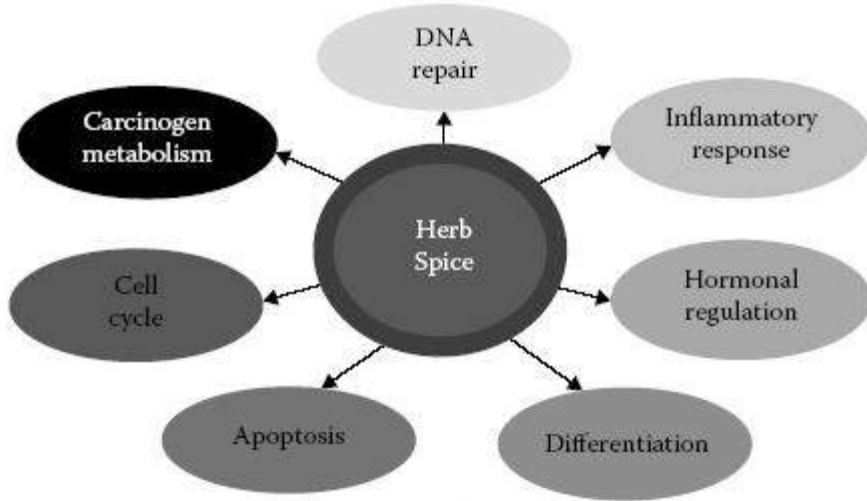


Nutmeg



Rosemary

Spices & Cellular Metabolism



Thyme



Cilantro
Coriander



Rosemary

Spices & Gut Health



- Prebiotic
- Cumin - digestive enzymes
- Oregano - kills H pylori, colon ca, food poisoning
- Turmeric - gut inflammation
- Coriander - IBS Rx Germany



Spices & Diabetes



Cinnamon - blood sugar control,
↓ insulin resistance
Cumin - ↓ insulin resistance
Coriander - blood sugar control

Spices & Weight Control



Cayenne - increases metabolism, decreases body fat & appetite

Cumin - decreases waist circumference (belly fat)

Ginger - increases satiety, decreases insulin resistance

All spices - by reducing inflammation and improving bacterial balance in the gut may help with weight loss

Spices & Brain Health



- Turmeric - increases blood flow in brain, decreases inflammation, antioxidant, improves memory and mood
- Thyme - improves memory (mice better recall within 30 min)
- Saffron - improves mood (as effective as Prozac in supplement form)
- All spices by reducing inflammation may improve brain health & mood

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