

Vegan Nutrition FAQ

GINNY MESSINA, MPH, RD



- ❖ **How can vegans protect bone health?**
- ❖ **How can vegans ensure good absorption of iron and zinc?**
- ❖ **How much soy is safe to eat?**
- ❖ **Should vegans eat a low fat diet?**
- ❖ **Junk food vegans: Is there really such a thing?**

Eating for Strong Bones



Calcium



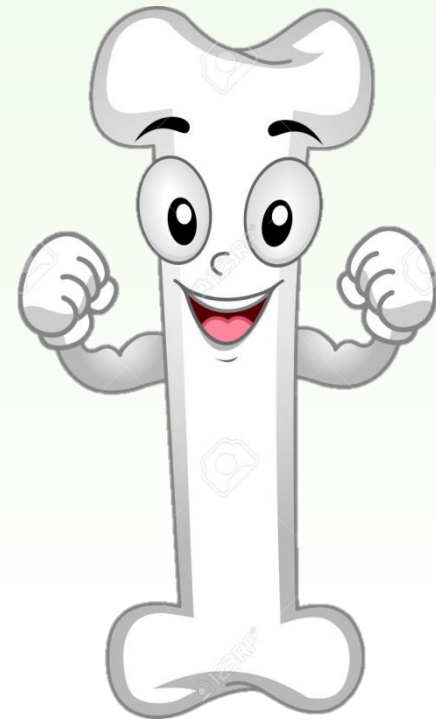
Fruits &
Vegetables

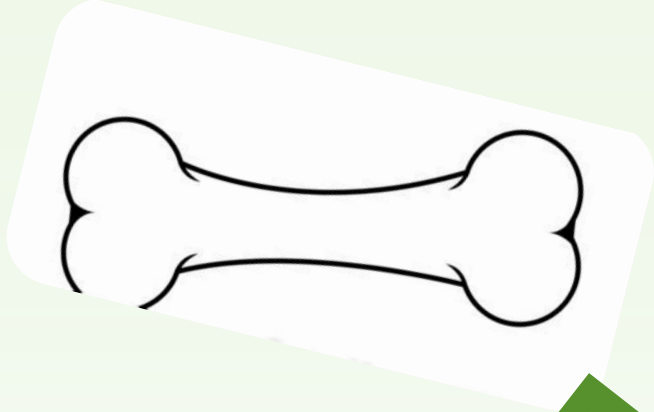


Protein

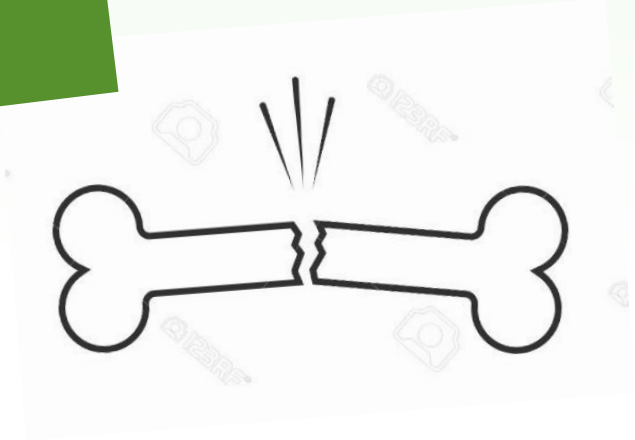


Vitamin D

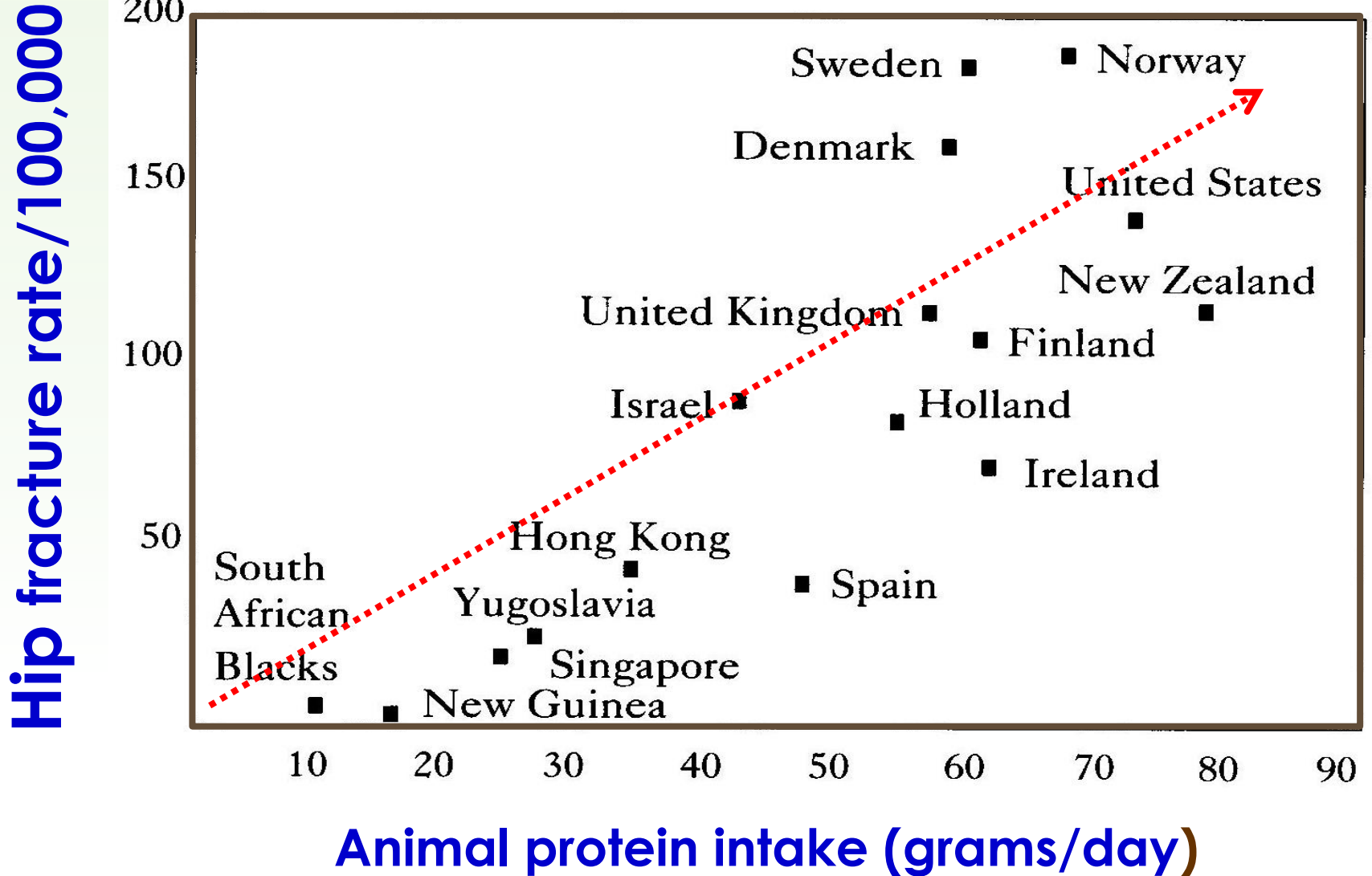




Dietary Protein



Hip Fracture Rates & Animal Protein Intake

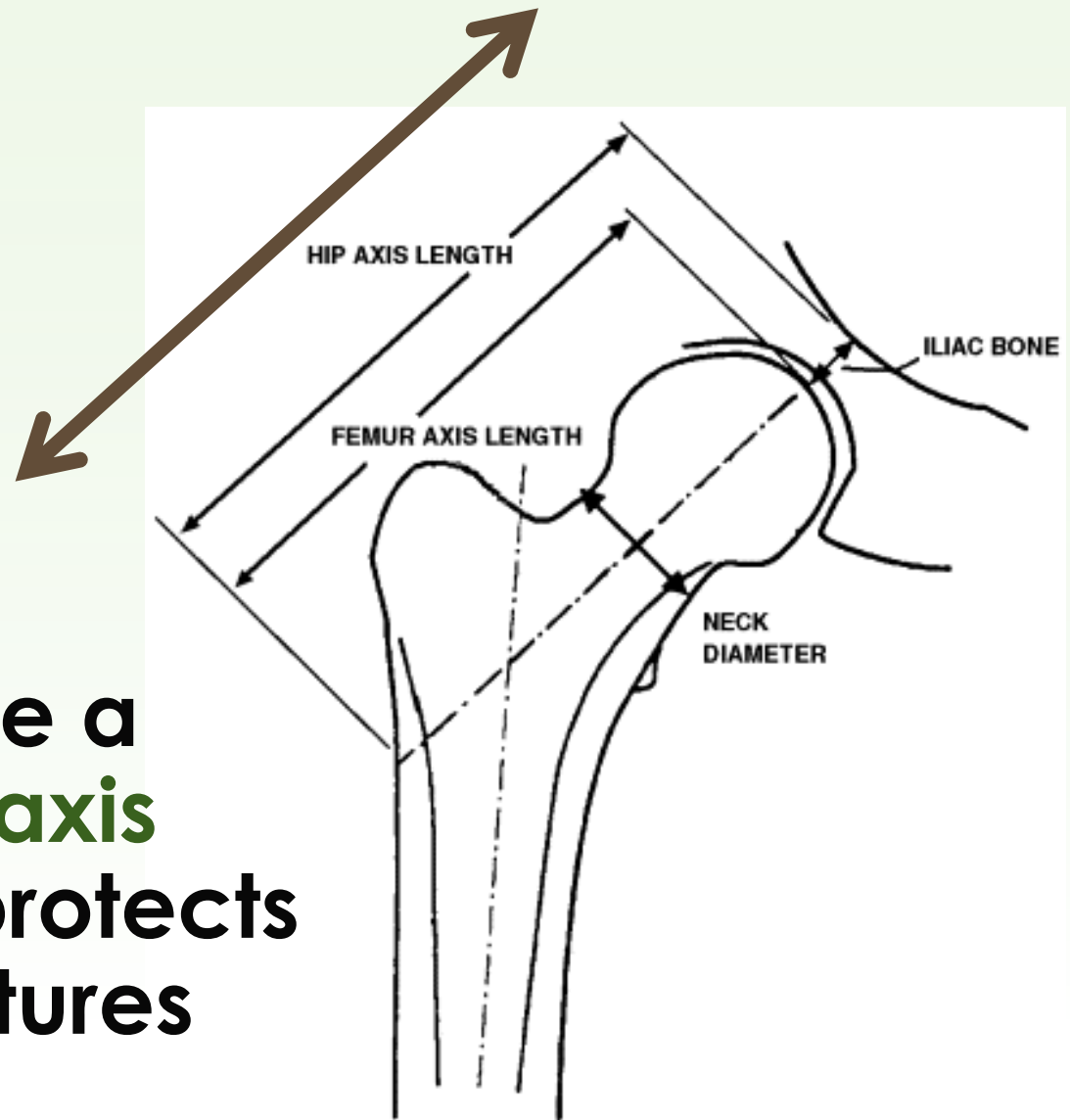


Hip Fracture Data Ecological Study

- **Studies that pool data from different groups and compare the averages—rather than comparing information from individuals**
- **Don't control for other variables**
- **Miss important factors that might affect the comparisons**

Genetic Differences

Asians have a shorter **hip axis length** which protects against fractures



Cultural Differences

Strength

Balance



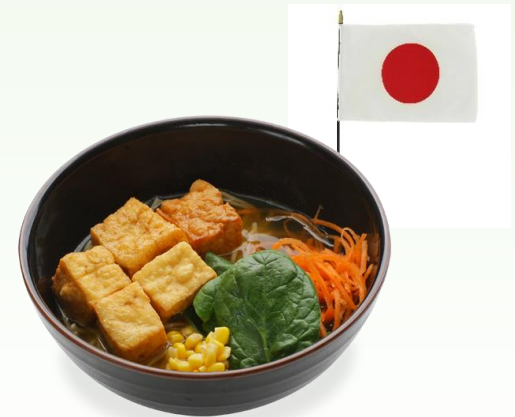
Even where **hip fracture** rates are low, **osteoporosis** is common



Comparison of fracture rates among people in Japan, Hong Kong and Sweden

Japan and Hong Kong:

- ❖ Lower risk of hip fracture
- ❖ Higher risk of spinal fracture



Hip fractures:
Due to falling



Spinal fractures:
Due to osteoporosis



Adventist Health Study



Protein protects bone health

- **Improves calcium absorption**
- **Contributes to bone structure**
- **Promotes muscle strength**



Get Adequate Calcium



**Vegans often
have lower
calcium intakes
than omnivores
and lacto-ovo
vegetarians**



EPIC-Oxford 2007 Findings

**Vegans were
37% more likely
to fracture a
bone than meat-
eaters and lacto-
ovo vegetarians**



Calcium Intake (mg/d) in the EPIC-Oxford

Group	Calcium
Omnivores	1,057
Pesco-vegetarian	1,081
Lacto-ovo	1,087
Vegan	610

Calcium without cows



**Wild greens supplied
abundant calcium to early
humans**

The Plant Plate



On the side



Optional

Virginia Messina, MPH, RD
TheVeganRD.com

All vegan food groups provide calcium

The Plant Plate



On the side

All vegan food groups provide calcium

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TheVeganRD.com



Optional

The Plant Plate



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All vegan food groups provide calcium

Best Plant Sources of Calcium



Legumes

Tofu
Soybeans

Fruits

Figs
Fortified juices



Nuts/Seeds

Almonds
Almond butter
Tahini



Milks

Any fortified
plant milk



Vegetables

Leafy greens



Calcium from Leafy Greens

Good sources: Bok choy, collards,
kale, turnip greens

Poor sources: Spinach, Swiss chard,
beet greens



Ensuring Adequate Absorption of **Iron** and **Zinc**



Best Vegan Sources of Iron: legumes, nuts, whole and enriched grains, soyfoods, spinach, Swiss chard, dried fruits



Dietary Iron Content

Food	mg of iron
Salmon, 3 oz	0.6
Chicken, 1/2 breast	0.6
Beef, 3 oz	1.3
Soymilk, 1 C	1.6
Black-eyed peas, 1/2 C	2.2
Tofu, 3 oz	3.0
Lentils, 1/2 C cooked	3.3

Dietary Iron Content

Food	mg of iron
Salmon, 3 oz	0.6
Chicken, ½ breast	0.6
Beef, 3 oz	1.3
Soymilk, 1 C	1.6
Black-eyed peas, ½ C	2.2
Tofu, 3 oz	3.0
Lentils, ½ C cooked	3.3

Vitamin C



Iron



Phytate

VITAMIN C

- Citrus fruits
- Strawberries
- Green leafy vegetables
- Peppers
- Cauliflower
- Cabbage



Iron + Vitamin C

**Oatmeal with
strawberries**



**Grains and beans
with leafy greens**

Vegans and Zinc



- **Phytate binds zinc**
- **Vegans sometimes have lower intakes**

Best Vegan Sources of Zinc: Legumes, nuts, seeds, whole grains, soyfoods

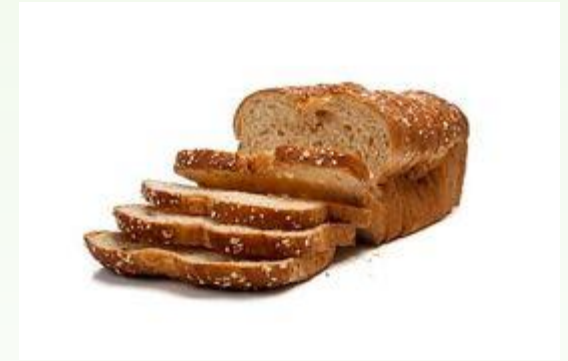


Improving Zinc Absorption

❖ Protein



❖ Leavening



❖ Fermenting



❖ Sprouting

How Much Soy is Safe to Eat?



Soyfoods are uniquely-rich sources of isoflavones

- Type of *phytoestrogen* (plant estrogen)
- Similar chemical structure to estrogen
- Able to bind to estrogen receptors
- Exert *some* estrogen-like effects
- *Different* from the hormone estrogen

Clinical Effects of Isoflavones and Estrogen

Isoflavones vs. Estrogen	Estrogen	Isoflavones
↓ Hot flashes	Yes	Yes
Improve endothelial function	Yes	Yes
↓ Wrinkles	Yes	Yes
Reduces bone loss	Yes	No
↑ Clotting	Yes	No
Stimulates breast tissue	Yes	No

Soy and Breast Cancer



- **Clinical studies: No adverse effects on breast tissue**
- **Early soy consumption reduces lifetime risk of breast cancer**
- **Women with breast cancer who consume soyfoods have improved prognosis**

Clinical studies show no effects of soy or isoflavones on:

- **Blood testosterone levels (>36 studies)**
- **Blood estrogen levels (>9 studies)**
- **Sperm/semien parameters (3 studies)**

How are Soyfoods Consumed in Asia?

Condiment style??

Fermented vs.
Non-fermented??

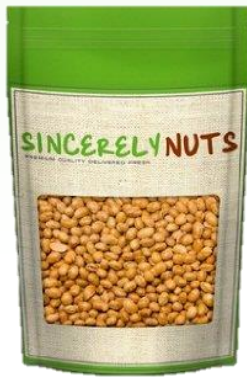


Asian Soyfood Consumption

Location	Servings per day	Type of soyfood
Shanghai	1 – 2	Non-fermented
Japan	1 – 2	50% Non-fermented
Korea	1/2 – 1	70% Non-fermented
Singapore, Hong Kong	~1/2	Non-fermented

Adult Intake recommendations

1-3 servings/day



**1/2 cup tofu, tempeh,
edamame**

1/4 cup soynuts

1 cup soymilk



**For young girls,
one serving per
day of soyfoods
may be enough
to lower
lifetime risk for
breast cancer**

Should Vegans Eat a Low-Fat Diet?



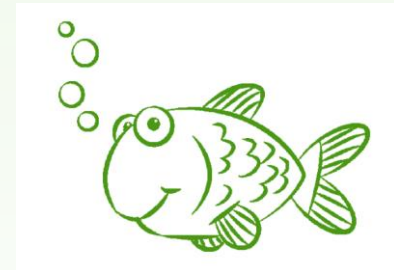
Essential Omega-3 Fatty Acid: Alpha-linolenic acid (ALA)

- **Walnuts (8 halves)**
- **Ground flaxseed (1 tbsp)**
- **Flaxseed oil (1 tsp)**
- **Hempseed oil (2 tsp)**
- **Walnut or Canola oil (1 tbsp)**
- **Soy oil (2 tbsp)**



DHA and EPA

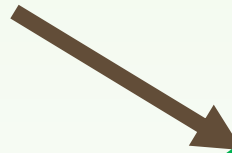
- **Long-chain omega-3 fats**
- **Found in fatty fish**
- **May reduce risk for heart disease, dementia, depression**





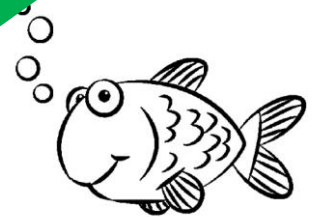
**Alpha-linolenic
acid (essential
omega-3 fatty
acid)**

**Conversion is
relatively poor**



**DHA and EPA
(long chain
omega-3
fats)**

**Vegans typically
have low blood
and tissue levels of
DHA and EPA**



Fish Get DHA and EPA from Algae...We Can, Too



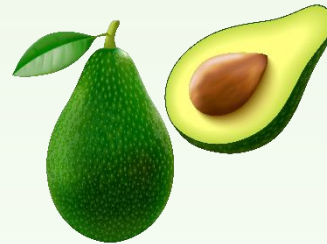
Vegan Omega-3 Fats from Algae

200-300 mg DHA + EPA
2-3 times per week



Healthy Sources of Fats

- Nuts



- Seeds



- Avocado

- Olives



- Vegetable oils

Benefits of High-Fat Plant Foods



- Nuts and seeds provide zinc
- Nuts reduce risk for heart disease
- Replacing saturated fat with plant fats improves cholesterol levels



Including Healthful Fats in Vegan Diets

- **Broadens culinary options**
- **Makes it easier to plan appealing vegan meals**
- **Makes it easier for people to go vegan, stay vegan, and stay healthy**

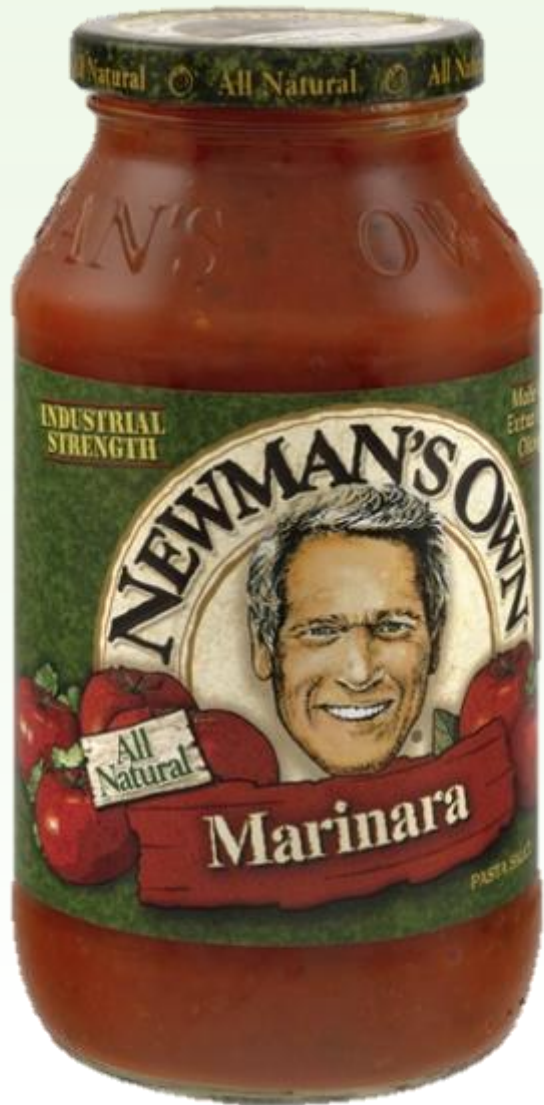


“Junk food vegans”
versus
“healthy vegans?”

**A False
Dichotomy**

Junk Food Vegans?







The Vegan Food Pyramid

(According to non-vegans)





An Optimal Vegan Diet

- **Meets nutrient needs**
- **Reduces risk for chronic disease**
- **Practical, easy, realistic**
- **Appealing**

“meaty”

creamy

Familiar Flavor

and

Texture

juicy

smoky

savory

chewy

sweet

**Add creamy texture
with blended
cashews, vegan sour
cream, avocado**



Add meaty texture with veggie meats, frozen defrosted tofu, seitan





Convenience



**Emphasize
Whole Plant Foods**



**Make Room for
Healthy Processed
Foods, Convenience,
Flavors & Textures
Treats**

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