

Plate up Optimal Health



? #3

**What dietary supplements
are a must?**

A photograph of a muscular human arm and hand, palm up, holding a small collection of various pills and capsules. The pills are in shades of white, blue, red, and tan. The background is plain white.

Dietary Supplements may be needed

- **supplies micronutrients like vitamins, minerals and phytochemicals**

Vitamin and Mineral Supplements Are They Needed?



**1. If calorie intake is
<1,500 kcal/day:
female, elderly**



**2. If alcohol is
heavily consumed**



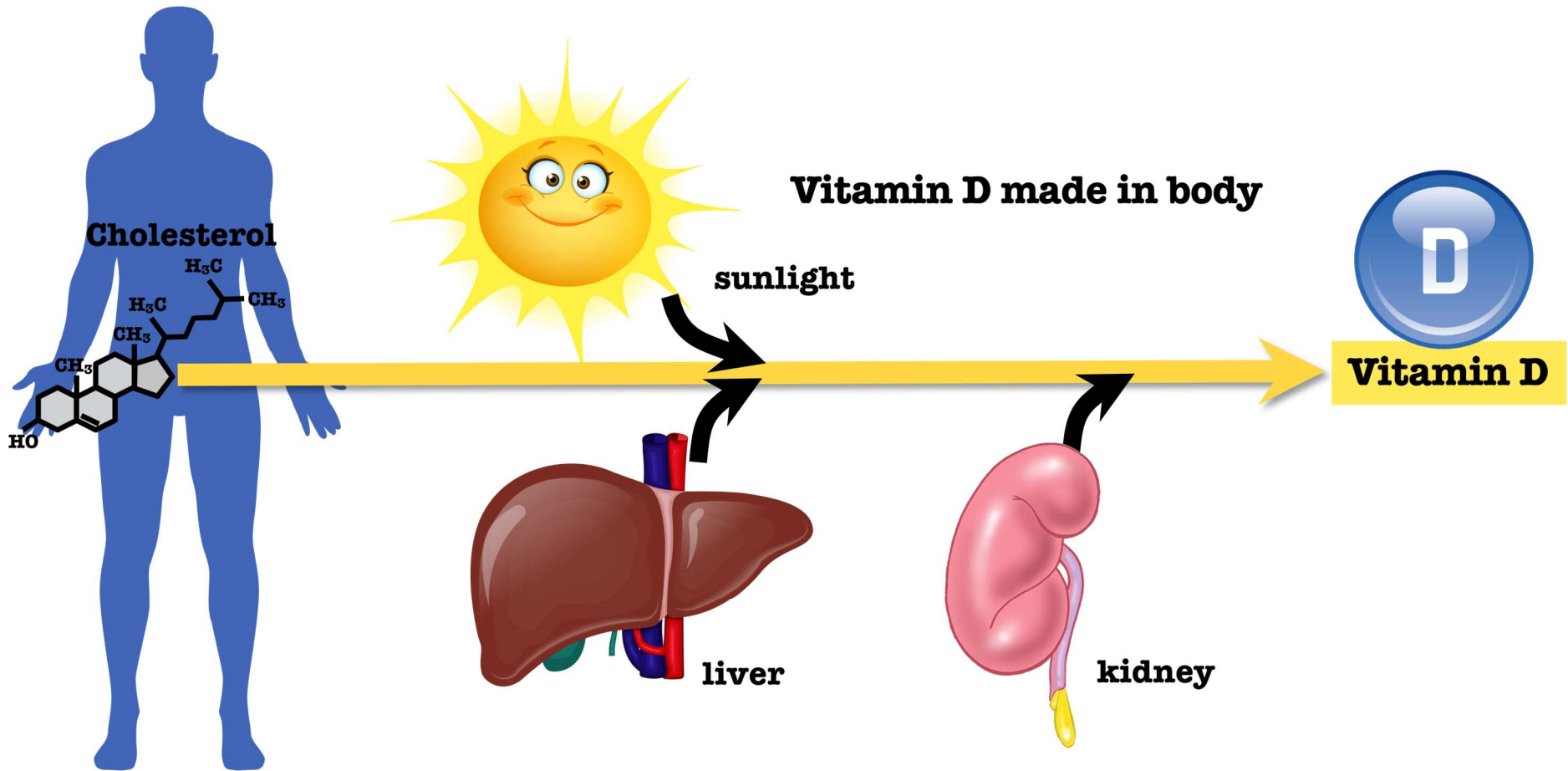
**3. If pregnant -
iron**



**4. If irregular eating
habits & poor selection of
food**

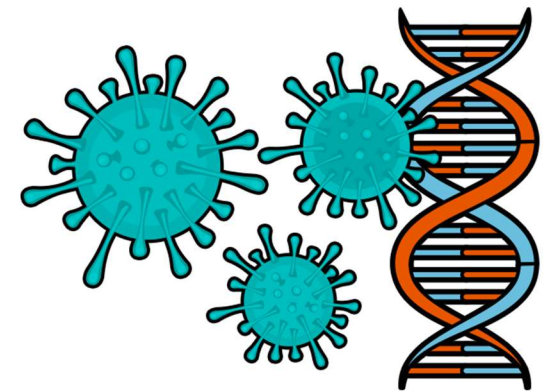
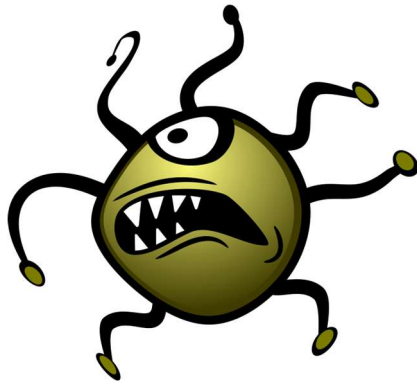
Type of supplement: 100% RDA, avoid “mega” levels

Vitamin D



Vitamin D

Function: Emerging roles beyond bone health



Cancer Protection against CVD Prevention of prevention (low and hypertension autoimmune diseases circulating vitamin D linked to increased cancer risk)

Supplement with

VITAMIN D?

1000 IU Daily



- **Vitamin D deficiency more common with increasing age (linked to dementia)**
- **Ability to synthesize vitamin D declines with age and less exposure to sunlight**
- **With lower calorie intake with increasing age and change in food preference – vitamin D deficiency big risk!**

? #4

**Any true performance
foods?**

Limitations to Performance



- Dehydration
- Depletion of muscle glycogen stores
- Low blood glucose

Quality Carbohydrates



- Replenish glycogen stores



Energy Bars



Energy Gels

Unique delivery system: concentrated carbohydrate gel of maltodextrin, fructose, dextrose



- Ease of carry (packet, refillable tube)

- No chewing- easy to swallow

- Rapid consumption

Carbohydrate Feeding Plan

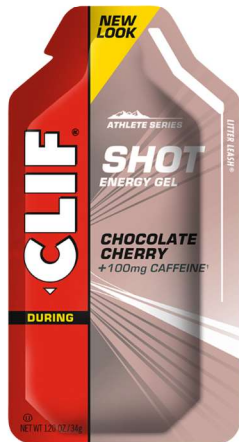
For Prolonged Endurance Event

Carbs: 30-60 g/hour

100K Ride



First hour
16 oz. Sport drink



90 minutes
Carbohydrate gel



Second hour
Apple slices
12 oz. sport drink



Three + hours
Carbohydrate gel



Towards end
16 oz. Sport drink

Caffeine



- **Ingest caffeine (coffee/energy drink) 45 minutes before exercise feel better; greater endurance**
- **Dose: 200 milligrams (10 oz. coffee or one 5-Hour Energy)**
- **During long distance exercise (4+ hour ride) dosing with 30 milligrams helps improve performance by stimulating central nervous system**

Performance Booster Beets and Spinach!



Beetroot Juice



- **Food source nitrate (↑ NO)**
- **↑ performance**
- **0.5 liters beet juice dose**

Performance Booster

Taken 2-3 hr. pre-run (5-25 min. effort)



? #5

**What should you eat to
preserve brain health?**

BRAIN FOOD

Boost Brain Health with Good Eats





Mediterranean Diet (DASH Diet)

MIND Diet

(Mediterranean-DASH Intervention for Neurodegenerative Delay)

Role of Omega 3's in Brain Health and Aging



- Serves as a component of brain cell membranes
- Produces cellular mediators – improves neuronal health
- Reduces and resolves brain cellular inflammation that would lead to neuron cell death

Adv. Nutr. 2016 7;905-16 2016

Increasing dietary intake of Omega-3's

- **Helps lower LDL cholesterol and heart disease risk**

Eat seafood twice weekly and include plant sources of omega-3's



DHA (omega3) Supplementation in Older Adults With Mild Cognitive Impairment

- **12 month randomized, placebo-controlled trial involving 219 participants comparing: 2g DHA vs. 2g corn oil**
- **Measured cognitive function (IQ Test) and hippocampal volume**
- **DHA supplementation significantly improved cognitive function and reduced hippocampal atrophy**



**J Alzheimer's Disease, 2016 October
Zang et al Tianjin Medical University, China**

