



# AGE SPOTS

Flat brown spots that appear on the skin with age that is indicative of oxidative damage.

## Possible Contributing Factors

- Many free radicals come from our normal metabolism and activity (i.e. too much exercise, type-A personalities/being overworked, not enough sleep, sunburns)
- Sustained elevated blood sugar (i.e. desired fasting insulin~5 mIU/L; HbA1c < 5.3%)
- Intake of processed and/or damaged fats (e.g. typical refined, Omega-6 vegetable oils, trans fats)
- Many carcinogens (e.g. pesticides, smoking) and toxins such as heavy metals, mold & mycotoxins
- When sugar molecules are cooked until “browned”, advanced glycation end products (AGEs) form which are powerful creators of oxidative stress (e.g. in blood vessels).
  - Externally: over-cooking, browning, and cooking foods at high temperatures
  - Internally: out-of-control diabetes creates AGEs inside our blood vessels
- Sustained inflammation

## Lifestyle & Dietary Recommendations

- High quality, low toxin seafood (e.g. salmon, lobster, shrimp, crab, crayfish) rich in astaxanthin
- Increase antioxidant rich foods (cloves, turmeric, ginger, berries, pecans, dark leafy greens, cocoa, green tea...)
- Avoid sunburns. Wear protective clothing when out in the sun for long periods of time
- Avoid refined & processed foods, alcohol, and caffeinated foods & beverages
- Avoid charring food & limit BBQ. Marinate meats and cook lightly to reduce AGE formation
- Replace vegetable oils with coconut oil, butter or ghee (if dairy well-tolerated) for cooking, and cold-pressed extra virgin olive oil (for room-temp and low-moderate heat use)
- If blood sugar is an issue, limit starchy carbs to ½ cup cooked grains and 1 cup root vegetables daily, and 1-2 whole fruits per day. Avoid all other forms of sugar and sweeteners.

## Supplement Considerations

- Astaxanthin
- Antioxidants/formula (vit C, B complex, selenium, vit A, vit E, NAC, ALA)
- Blood sugar support formula
- Omega-3