

# OXIDATIVE STRESS EXAMPLES



Things we do daily (inside and out), things we consume...



Many free radicals come from our normal metabolism and activity (i.e. too much exercise, type-A personalities/being overworked).



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\*\*) I recommend coconut oil, butter or ghee (if dairy well-tolerated) for cooking, and cold-pressed extra virgin olive oil (for room-temp and medium to low-heat use).



Many carcinogens (e.g. pesticides) & toxins such as heavy metals (e.g. arsenic, mercury\*\*\*), 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. Marinating meats and cooking lightly helps greatly in reducing AGE formation.
- Internally: out-of-control diabetes creates AGEs inside our blood vessels.



Sustained inflammation in the body generates oxidative stress. And then higher oxidative stress generates more inflammation. And so on... But it can be reversed!

## References:

\* <http://circ.ahajournals.org/content/106/16/2067>

\*\* Dr. Julian Kadish, "Heart Attack and Stroke: The Science of a Man-Made Health Catastrophe, Langdon Street Press, 2010

\*\*\* <http://ajpheart.physiology.org/content/295/3/H1033>