

# METABOLIC SYNDROME

*It's not how far you fall, it's how high you bounce that counts...*

## *MetS criteria (at least 3/5)*

- Fasting glucose  $\geq 100$  mg/dL
- Blood pressure  $\geq 130/85$
- Triacylglycerides  $\geq 150$
- HDL-C: M  $< 40$ , F  $< 50$  mg/dL
- Waist: M  $\geq 40$ " F  $> 35$ "

## *Meeting MetS criteria is a risk for*

- Diabetes Mellitus
- Coronary heart disease, heart failure, atrial fibrillation
- Ischemic stroke
- Nonalcoholic fatty liver disease

## *What causes MetS*

- High calorie low-fiber food
- Inactivity, sedentary lifestyle
- Obesity and lipid toxicity
- Gut microbial imbalance
- Disrupted circadian rhythm
- Chronic inflammation
- Oxidative stress and glucose toxicity



## *Lifestyle changes to resolve MetS*

### *Insulin resistance - a hallmark of metabolic syndrome*

- Eat real food!
- Avoid industrial seed oils (canola, safflower sunflower...)
- Avoid processed grains, refined sugars and carbs.
- Get rid of sugared beverages.
- Exercise and stay active. Exercise increases mitochondria, this in turn improves insulin sensitivity.
- Implement intermittent fasting.
- Optimize your gut microbiome - eat fermented foods, consider taking a probiotic; avoid agricultural chemicals, antibiotics and antibacterial soaps, chlorinated water.
- Normalize your vitamin D levels (40-60 ng/ml) which influences insulin secretion and sensitivity. Vitamin D deficiency compromises the conversion of proinsulin to insulin.
- Get 6-8 hours of quality sleep per night.