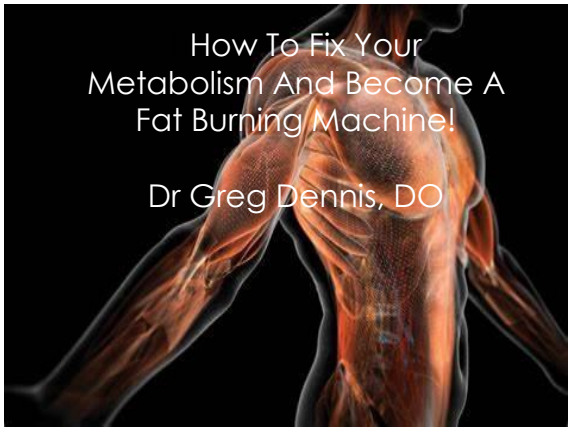
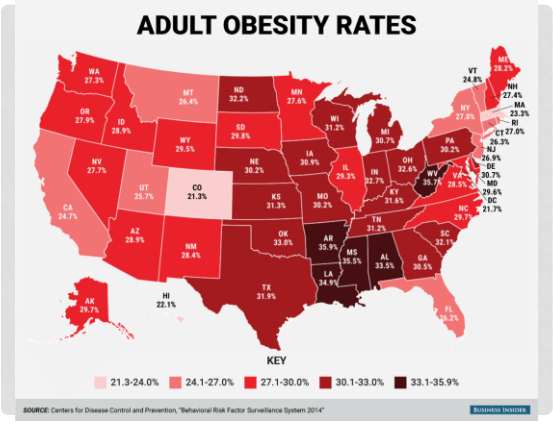
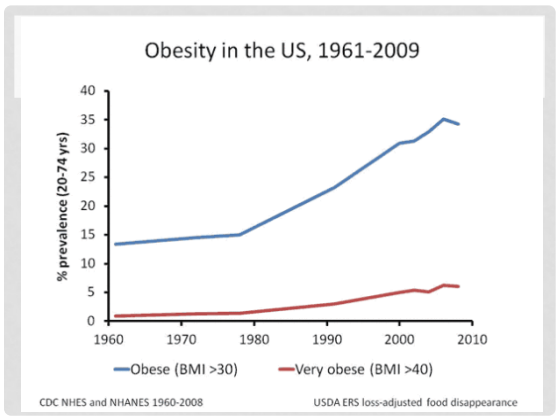


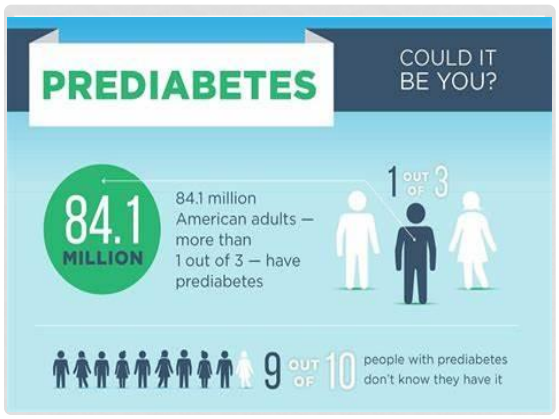
ABOUT ME

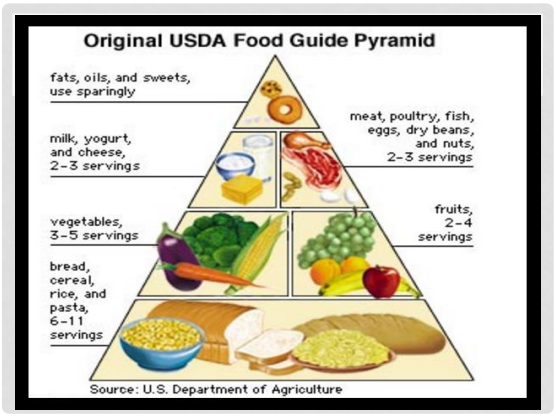
- Greg Dennis, D.O.
- Family Medicine Physician
- Certified in Age Management Medicine
- Practicing in Mustang/Yukon for 15 Years
- Host of Fit RX Podcast
- Level 1 CrossFit Coach

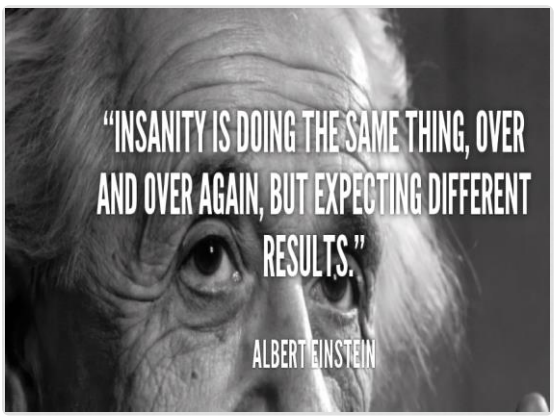



Obesity in the US, 1961-2009
% prevalence (20-74 yrs)
40
35
30
25
20
15
10
5
0
1960
1970
1980
1990
2000
2010
Obese (BMI >30)
Very obese (BMI >40)
CDC NHES and NHANES 1960-2008
USDA ERS loss-adjusted food disappearance

WELCOME TO
FAT
AMERICA
MENU
FreakingNews.com


PREDIABETES
COULD IT BE YOU?
84.1 MILLION
84.1 million American adults — more than 1 out of 3 — have prediabetes
1 OUT OF 3
9 OUT OF 10
people with prediabetes don't know they have it



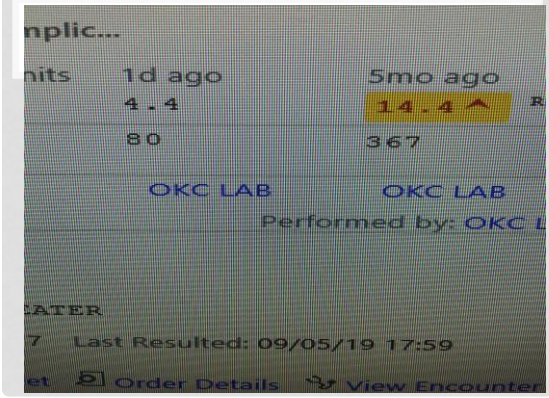


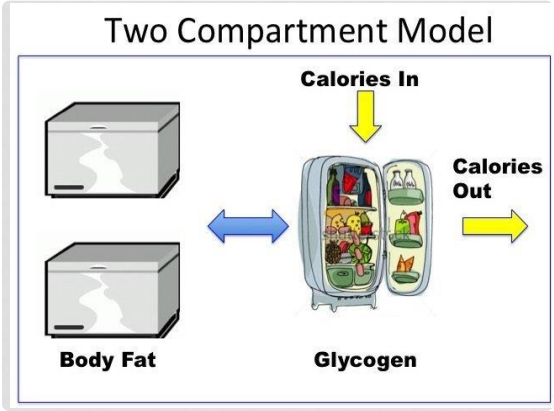
MYTHS

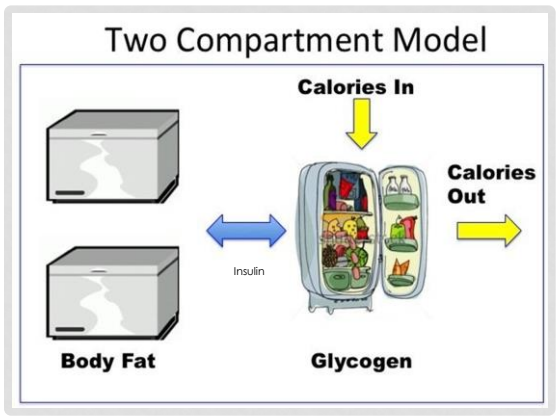
- Calories in vs Calories out
- You need to exercise more
- Eat low fat
- Eat 3 meals a day and 2 snacks
- Breakfast is the most important meal
- Doesn't matter what you eat as long as you exercise enough

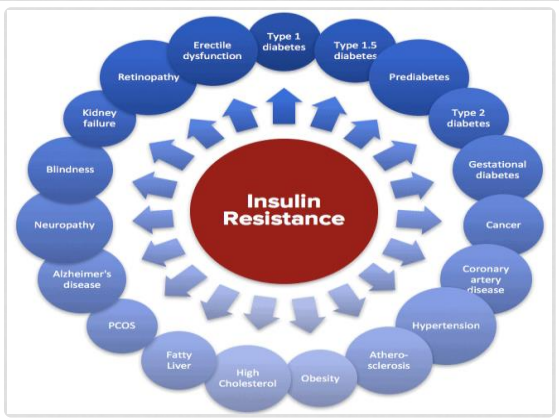
TRUTHS

1. Obesity is a hormone problem
   - Insulin
   - Cortisol
2. Low calorie diets don't work and may make things worse
3. You cannot out exercise a bad diet
4. You can change your metabolic health





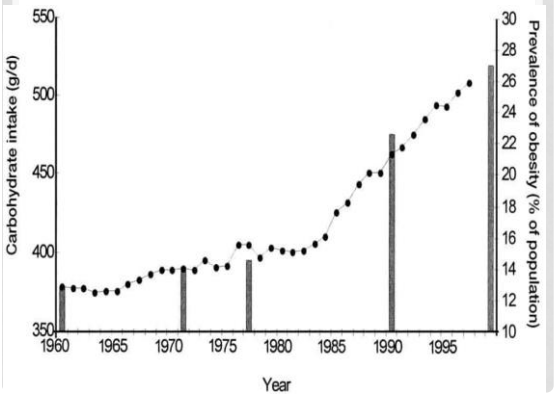




HOW TO FIX YOUR METABOLISM AND BECOME A FAT BURNING MACHINE?

1. DECREASE CARBOHYDRATES

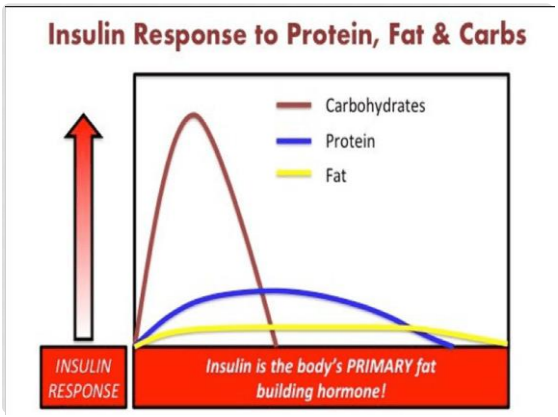
- Glycemic variability refers to the blood glucose variations during the day
- If GV gets out of control, the body does one of two things: transfers sugar into muscles, or stores as body fat



DECREASE CARBOHYDRATES

DECREASE CARBOHYDRATES

2. EAT MORE FAT!



EAT MORE FAT

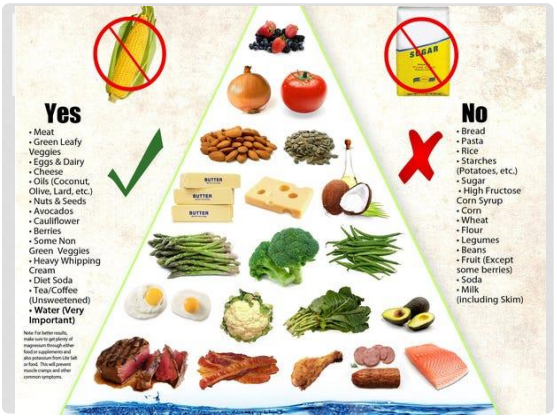
- To beat fat, you've got to eat fat!
- To burn fat, you've got to control your insulin
- To control your insulin, you've got to change your fuel

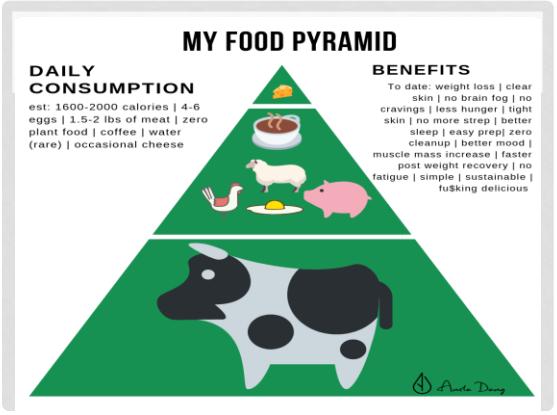
EAT MORE FAT

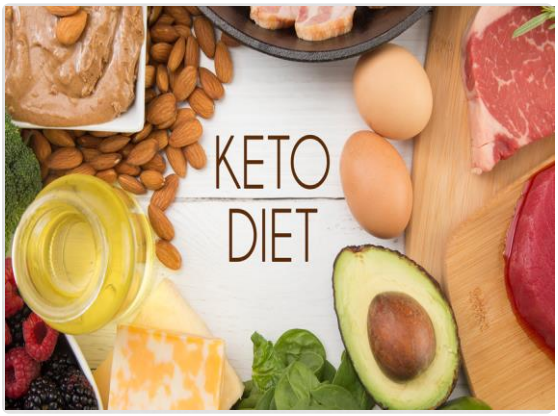
- Dr. Walter Willett of the Harvard School of Public and considered one of the worlds foremost experts in nutrition wrote in a review article in 2002:
  - *"Diets high in fat do not account for the high prevalence of excess body fat in western countries: reductions in the percentage of energy from fat will have no important benefits and could further exacerbate this problem. The emphasis on total fat reduction has been a serious distraction in efforts to control obesity and improve health in general.*

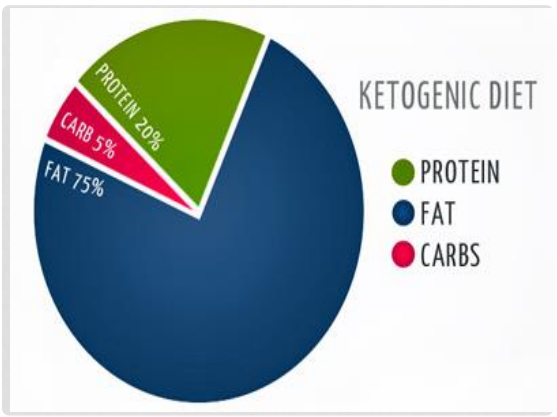
EAT MORE FAT

- Women's Health Initiative Dietary Modification Trial
  - Nearly 50,000 women were assigned a low-fat diet, calorie restricted diet over 7 years. It produced no weight loss, no cardiovascular benefits, no reduction in stroke, no reduction in cancer.





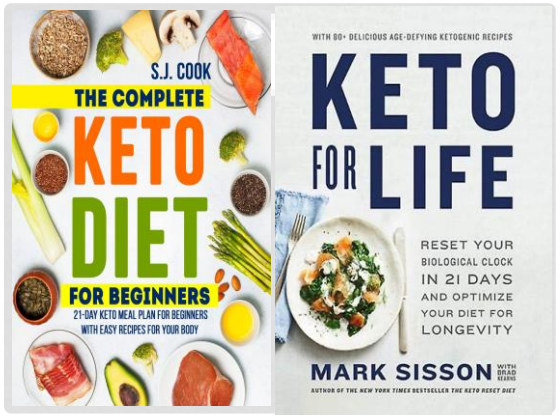


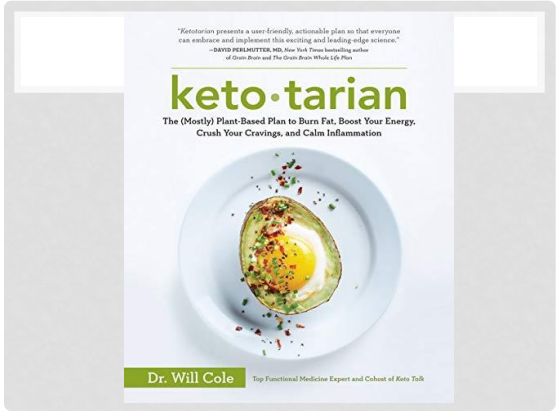


"KETOSIS"

- **A metabolic state where the body is preferentially burning fat**
- Has phases
- Body adaptation
  - Flexible metabolism
- Can be halted by:
  - too many carbohydrates or too much protein
  - alcohol
- Can be "deepened" with:
  - Intermittent fasting
  - Exercise

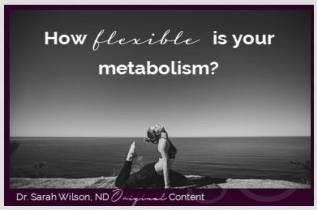
9 Proven Benefits of a
Ketogenic Diet
Reduced Inflammation
Improved Fat Burning
Mental Clarity and Sharpness
Abundant Energy
Clear Skin
Reduced Cravings
Mitochondrial Biogenesis
Anti-Aging Effects
Reduced Risk of Chronic Disease
DrJockers.com


S.J. COOK
THE COMPLETE
KETO
DIET
FOR BEGINNERS
21-DAY KETO MEAL PLAN FOR BEGINNERS
WITH EASY RECIPES FOR YOUR BODY
WITH 80+ DELICIOUS AGE-DEFYING KETOGENIC RECIPES
KETO
FOR LIFE
RESET YOUR BIOLOGICAL CLOCK IN 21 DAYS AND OPTIMIZE YOUR DIET FOR LONGEVITY
MARK SISSON
WITH BRAD KEARNS
AUTHOR OF THE NEW YORK TIMES BESTSELLER THE KETO RESET DIET


"Ketotarian presents a user-friendly, actionable plan so that everyone can embrace and implement this exciting and leading-edge science."
—DAVID PERLMUTTER, MD, New York Times bestselling author of Grain Brain and The Grain Brain Whole Life Plan
keto·tarian
The (Mostly) Plant-Based Plan to Burn Fat, Boost Your Energy, Crush Your Cravings, and Calm Inflammation
Dr. Will Cole
Top Functional Medicine Expert and Cohost of Keto Talk

METABOLIC FLEXIBILITY

- Metabolic flexibility – Is the ability to switch back and fourth between the two major energy substrates—glucose and fat based on availability and need.



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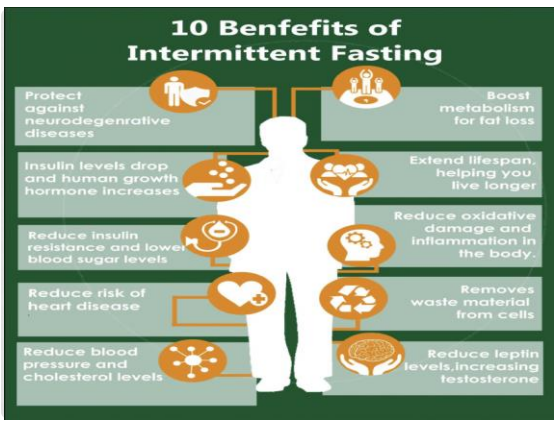


FASTING

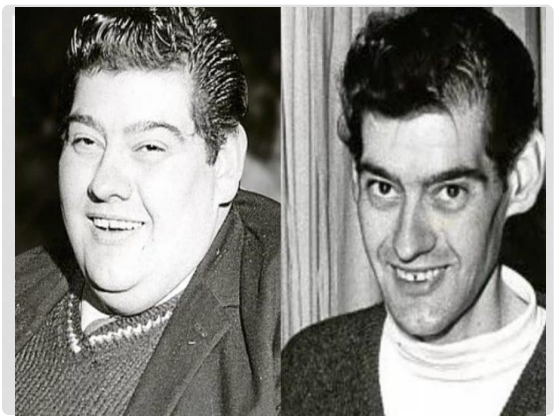
- Chronic calorie restriction reduced basal metabolic rate, where intermittent fasting did not.
- Chronic intermittent fasting increases ghrelin(hunger hormone) where fasting did not.

FASTING

- A pound of fat supplies app 3,500 calories of energy
- 180 pound man with 25% body fat = 45 lbs body fat – enough body fat to carry him for 90 days without eating any food whatsoever before he is in danger of wasting.

382 days without food.
The longest ever fast!

1:29
LTE
Instagram
214KG
382 DAYS FAST
81KG
382 DAYS
@fastingnews
546 likes
fastingnews Believe it or not (it's in the Guinness Book of World Records) the longest recorded fast lasted 382 days. In 1965, Angus Barbieri, 27, weighing 456 pounds (207 kg), started what was initially supposed to be a 40 day fast.
However, encouraged by his progress, he decided to go on until he reached his goal weight of 180 pounds (82 kg). The fast was supervised by health professionals who prescribed Angus a daily vitamin supplement, vitamin C, yeast for B vitamins, and the occasional electrolyte supplement. He was allowed to consume any non-caloric beverage as he wished, such as tea, coffee, and sparkling water. On day 382 of the fast, he had lost a total of 276 pounds (125 kg), weighing in at his goal weight of180 pounds (82 kg). What's more, is that he experienced no significant adverse side-effects and five years following the fast, he had maintained his weight loss at ~196 pounds (89 kg).



4. BUILD MUSCLE

BUILD MUSCLE

- Muscle mass is a predictor of longevity in older adults (6)
- Increased muscle mass improves metabolism (7)
- Muscle is responsible for 80% of post-prandial glucose uptake (9)
- Increased muscle mass improves insulin resistance(9)

BUILD MUSCLE

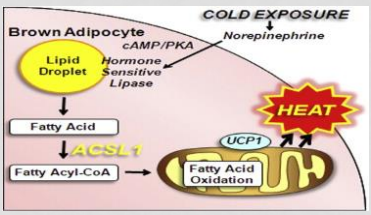
- Move – light easy exercise particularly in a fasted state. Shoot for 10,000 steps/day
- Strength Training – lift something heavy twice weekly.
- HIIT Training – 1-2 times a week
  - Tabata intervals – 20 sec hard followed by 10 sec rest
  - Sprinting, swimming, cycling, etc..
- **Stop Chronic Cardio** – increases cortisol which leads to a disregulation of other hormones including insulin.

5. OPTIMIZE HORMONES

- Thyroid – TSH, Free T3, Free T4, Reverse T3
- Testosterone in men and women
- Estrogen in women
- Vitamin D
- Decreased **Cortisol**
  - **stress**

6. COLD THERMOGENESIS

BAT ACTIVATION



ADIPONECTIN ACTIVATION

- Adiponectin is a hormone released during cold exposure that breaks down fat and shuttles glucose into muscles (which can lower blood sugar). This not only has an anabolic, muscle repair effect, but can also enhance recovery. Interestingly, low adiponectin levels have been associated with obesity, diabetes, and cardiovascular disease.

HIGHER METABOLISM & LOWER BLOOD SUGAR

- Cold exposure can cause blood glucose to be burned rapidly as fuel to assist in heating the body or stored in muscles to enhance recovery or performance – before that blood sugar can potentially be converted to fat via the liver.
- When the metabolism of human BAT is studied using a combination of positron emission tomography (PET) combined with computed tomography (CT), glucose uptake has been observed to increase 12-fold in BAT by exposure to cold temperatures, along with a significant increase in metabolism and energy expenditure.

ENHANCED IMMUNE SYSTEM

- Cold therapy has been proven to enhance the immune system, primarily by increase levels of immune system cells that help fight disease and infection.
- Specifically, cold exposure – likely due to it's ability to stimulate norepinephrine release – can induce leukocytosis and granulocytosis, an increase in natural killer cell count and activity, and a rise in circulating levels of interleukin-6, all of which can massively improve your immune system integrity.

INCREASED CELL LONGEVITY

- Cold exposure has an effect on cellular longevity by similar decreasing mTOR pathways and stimulating AMPK as caloric restriction and intermittent fasting. Basically, you can think of it as a combination of simultaneously increasing your cell's hardiness and health.

DYI COLD POOL

DYI COLD POOL

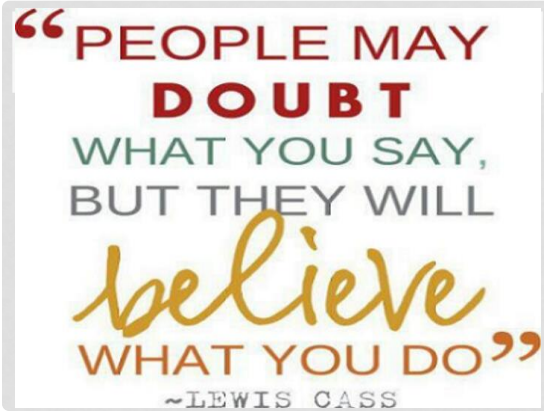
- Freezer
- Cold shower
- Bath
- Bengreenfieldfitness – DYI Cold Thermogenesis
- Dr. Jack Kruse – www.jackkruse.com/coldthermogesnesis
- Wimhof - https://www.wimhofmethod.com/

SUMMARY

- 1. Decrease carbohydrates especially processed carbs
- 2. Eat more fat and protein
- 3. Fast
- 4. Exercise to build muscle
- 5. Optimize Hormones
- 6. Get Cold

RESOURCES

- The Obesity Code – Dr. Jason Fung, M.D.
- Why We Get Sick – Dr. Ben Bickman, PhD
- www.dietdoctor.com
- www.insuliniq.com
- Fit Rx Podcast
- Youtube: Dr. Ken Berry, M.D.



CONTACT INFO

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- drlydiavldc@gmail.com
- 405-376-1381

VIBRANT LIFE
DIRECT CARE

REFERENCES

- 1. Br J Nutr
- . 2013 Oct;110(7):1178-87. doi: 10.1017/S0007114513000548. Epub 2013 May 7.
- Very-low-carbohydrate ketogenic diet v. low-fat diet for long-term weight loss: a meta-analysis of randomised controlled trials

- 2. Insulin: too much of a good thing is bad.
- . 2020 Jul 7;13(7):e234223. doi: 10.1136/bcr-2019-234223.
- Therapeutic use of intermittent fasting and ketogenic diet as an alternative treatment for type 2 diabetes in a normal weight woman: a 14-month case study

- 3. BMJ Case Rep
- . 2018 Oct 9;2018:bcr2017221854. doi: 10.1136/bcr-2017-221854.
- Therapeutic use of intermittent fasting for people with type 2 diabetes as an alternative to insulin

REFERENCES

- 4. Can Fam Physician
- . 2020 Feb;66(2):117-125.
- Intermittent fasting and weight loss: Systematic review

- 5. Curr Sports Med Rep
- . 2012 Jul-Aug;11(4):209-16. doi: 10.1249/JSR.0b013e31825dabb8.
- Resistance training is medicine: effects of strength training on health

- 6. The American Journal of Medicine
- Volume 127, Issue 6, June 2014, Pages 547-553
- Muscle Mass Index As a Predictor of Longevity in Older Adults

- 7. Adipocyte. 2013 Apr 1; 2(2): 92–98.
- Published online 2013 Apr 1. doi: 10.4161/adip.22500
- Increasing muscle mass to improve metabolism

- 8. J Clin Endocrinol Metab
- . 2020 Aug 1;105(8):e2941-e2959. doi: 10.1210/clinem/dgaa345.
- Moderate-Intensity Exercise and High-Intensity Interval Training Affect Insulin Sensitivity Similarly in Obese Adults

- 9.Compr Physiol
- . 2020 Jul 8;10(3):785-809. doi: 10.1002/cphy.c190029.
- Role of Skeletal Muscle in Insulin Resistance and Glucose Uptake

QUESTIONS