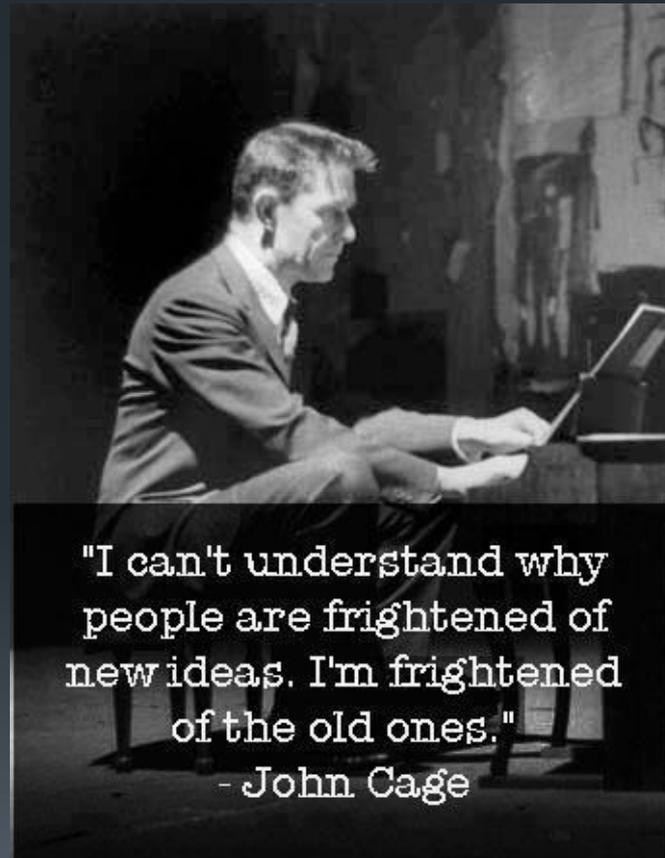


Intermittent Fasting



"I can't understand why
people are frightened of
new ideas. I'm frightened
of the old ones."
- John Cage

Why am I doing this?

- Immensely frustrated by the opinion of those working in the food industry.
- So many people seem to struggle with their weight...and they always seem to be the ones sitting beside me on planes...
- Want to share some research based info not just wives tales or myths based on...?
- No hidden agenda, not making anything out of this just sharing some wisdom
 - Knowledge is power

My agenda

Intermittent Fasting

- the role of hormones
- does it work?
- inflammation
- what do you want to be?
- some potential myths that exist
- eating patterns
- is it too hard?

What are hormones?

- Not to get too technical but they are chemicals released by one part of the body (gland or cell) that send out messages to alter things happening somewhere else in the body...
 - Anabolic
 - Men testosterone goes down with increased body fat, women testo goes up (Mohr, 2004)
 - Catabolic
 - Other - like sexual function, hunger control etc

Intermittent Fasting

- What is it?
 - Periods of time when you don't eat
 - Various forms are recommended
 - E.g eat normally for 5 days of the week then choose 2 separate days in the week when you do not eat for 24 hours (5+2)
 - Other methods:
 - 20 hours not eating, 4 hours eating (20/4)
 - 16 hours not eating, 8 hours eating (16/8)
 - 18 hours not eating, 6 hours eating (18/6)

Does it work?

- Not seen as a viable option by most food “experts”
- Benefits (apart from saving time and money!)
 - Improved mental focus (adrenalin and noradrenalin released when fasting)
 - Decreased body fat & body weight
 - Decreased risk to bacteria and viruses (Levine, 2005)
 - Maintenance of skeletal muscle mass - largely due to elevated growth hormone levels, (Norrelund et al, 2001)

cont...

- Increased growth hormone levels (Hartman et al, 1992)
 - Over-eating suppresses GH levels (Cornford et al, 2011)
 - Those high in abdominal fat have low levels of GH (Veldhuis, 1991)
 - Injecting GH in a non-fasted state is nowhere as effective as having it present in fasted state (Moller et al, 2009)
 - Fasting, sleep and exercise are the best ways to produce GH (remember GH levels lower as we age...)
 - As you lose weight your body gets better at producing more GH when you are fasting and exercising (Rasmussen, 1999)

cont...



- Decreased food related stress/inflammation (Varaday, 2009)
- Decreased blood glucose levels (Klein et al, 1993)
 - High blood glucose levels responsible for inflammation – linked to aging and disease (Chung et al, 2001)
- Decreased insulin levels & increased insulin sensitivity (Halberg et al, 2005)
 - Significant positive cholesterol and triglyceride implications with this

cont...

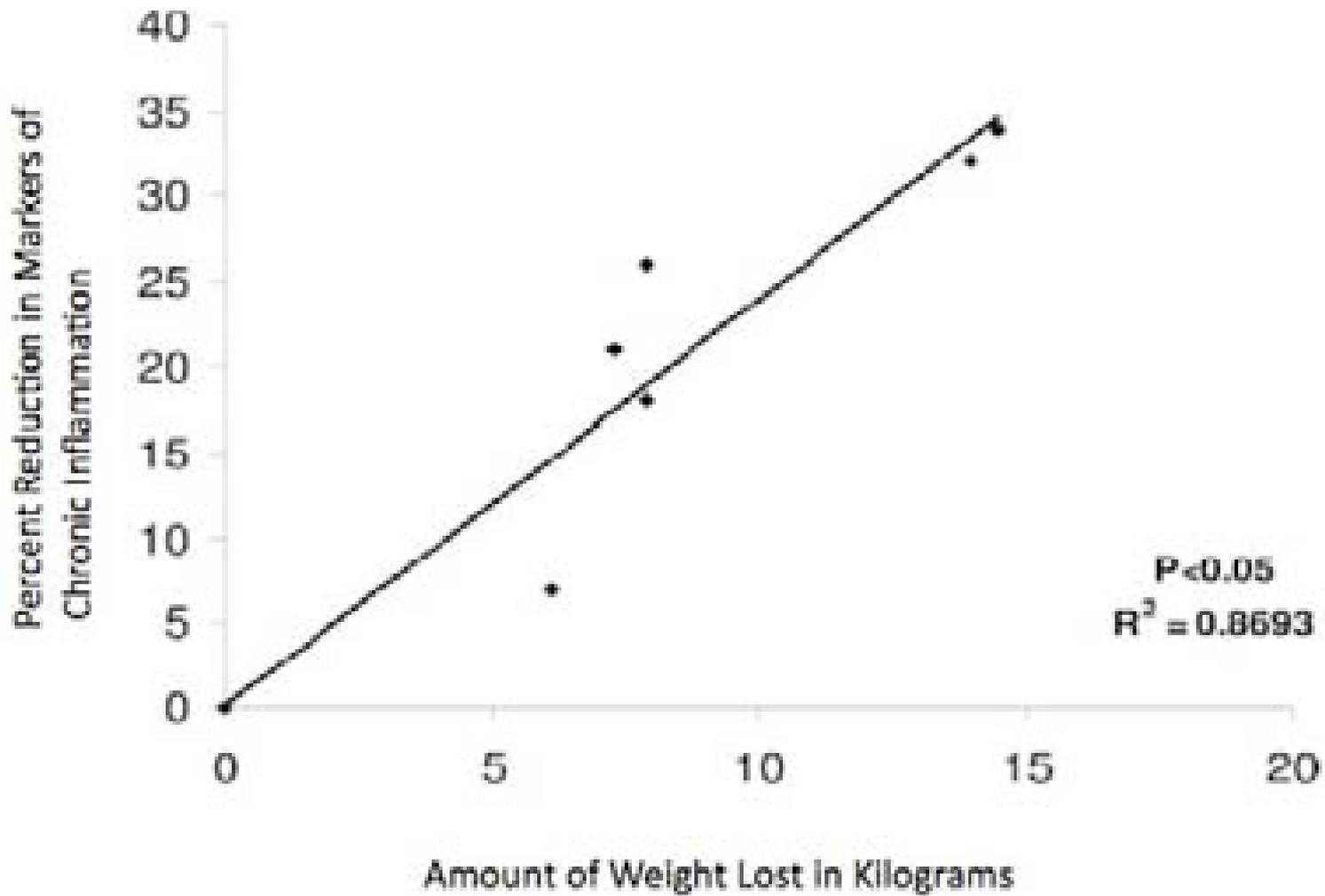
- Increased lipolysis & fat oxidation (Oscarsson, 1999)
- Increased glucagon levels (essential fat burning hormone) (Christensen et al, 2011)
- Decreased chronic systemic inflammation (Morgan et al, 2007)
- Decreased markers of coronary heart disease (Varaday et al, 2009)

cont...

- Increased cellular cleansing (autophagy)
 - Difficult for autophagy to occur in the fed state esp in the presence of insulin (Kanazawa et al, 2004)
 - Strong research showing fasting is helping neuronal diseases and cleansing of toxic materials in the brain (Alirezai et al, 2010)
- Current exciting research is showing that IF can improve neuronal function and overall health in a way that is unique from any other style of dieting or calorie restriction (Anson et al, 2003)

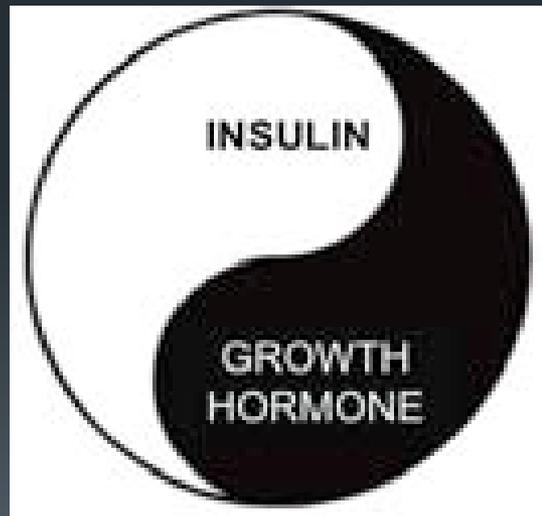
Inflammation...

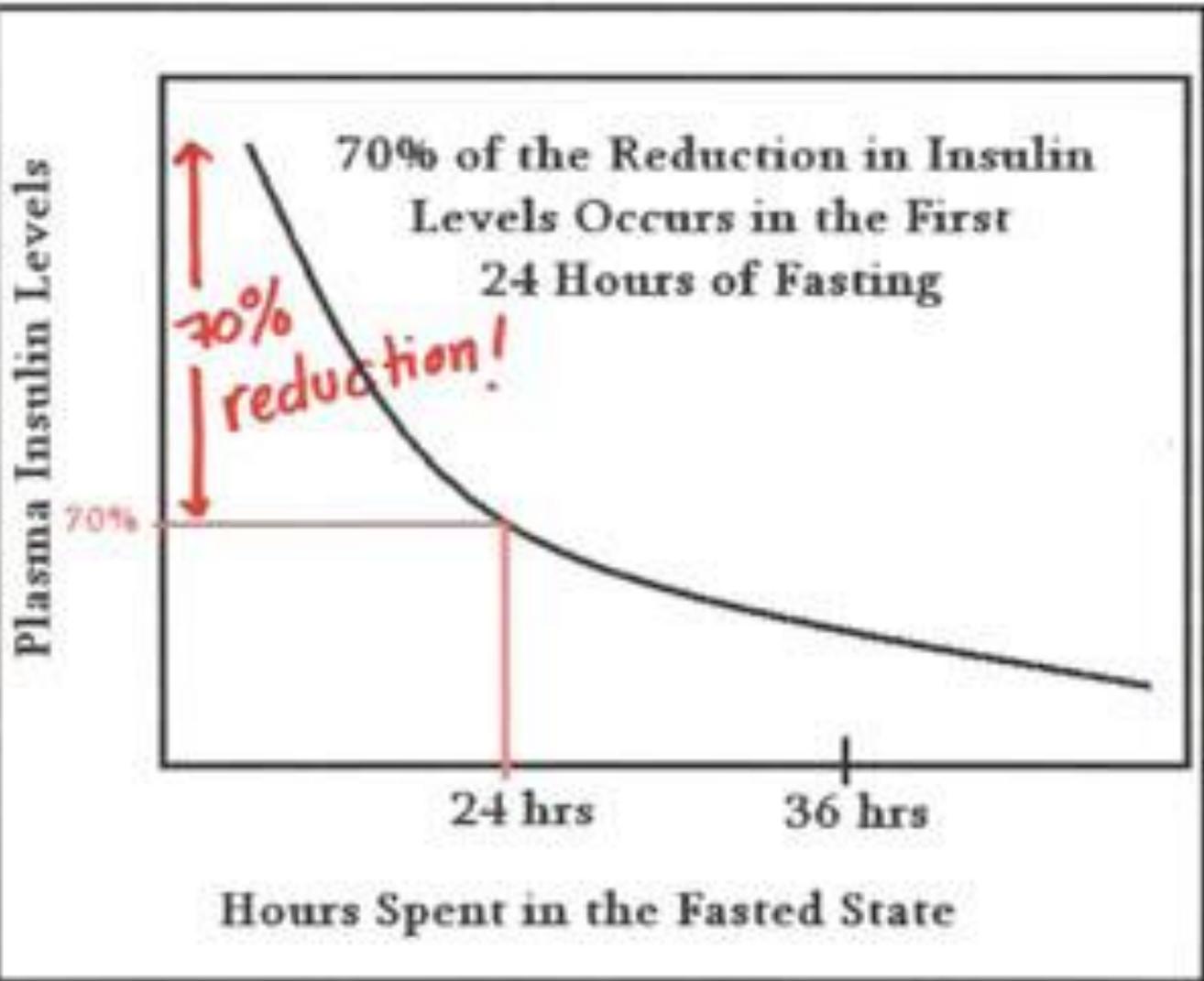
- Inflammation is associated with many disease states including: rheumatoid arthritis, hypertension, atherosclerosis, fatty liver, and asthma as well as insulin resistance, cardiovascular disease, diabetes, and even the aging process itself (Senn et al, 2002)
- Chronic inflammation has been associated with the bodies inability to build muscle (Schapp, 2006)
- Chronic inflammation has been linked to the cause of muscle loss with aging (Toth et al, 2005)



What do you want to be?

- FED – Insulin Dominant Metabolism
- FASTED – Growth Hormone Dominant Metabolism





The fasting “myths”

Myth 1

“If you don’t eat you will go into starvation mode and your body will store fat and your metabolism will slow down”

■ Reality...

- 72 hours and no change in metabolic rate (Webber and McDonald, 1994)
- Quite the opposite seems true, metabolism has actually been shown to go up with fasting
 - 3.6% - 10% after 36-48 hours (Mansell PI et al 1990 and Zauner C et al, 2000)

Myth 2

“Your blood sugar levels will go all over the place”

■ Reality

- 5-10% of the population have this...
- Body has it under control, 70-140 mg/dL (Guettier et al, 2006)
- Blood sugar levels follow the meal frequency you are used to
- So, the more often you eat the more up and down they may or will probably go...

Myth 3

“You need to keep eating many small meals often to keep your metabolism going”

■ Reality

- TEF (Thermic Effect of Food) is proportional to the calories you consume so it doesn't matter how often you eat (Bellisle et al, 1997)
- Eat 6 small meals per day or 3 large meals per day
- you get 6 small thermic responses that add up to the same as 3 bigger thermic responses!

cont...

- A study by Verboeket-Van De Venne et al, (1993) performed on men and women between the ages of 25 and 65
 - there was no change in the metabolic rate of people who skipped breakfast, or people who ate two meals a day compared to seven meals per day.

Myth 4

“You will store fat...”

■ Reality

- So I should be as fat as a house...
- Fat storage?
 - Maybe we should talk about sugar consumption and the link to high insulin levels and the link to so many diseases...
 - Paleo eating options?
 - Save that for another day...

Myth 5

“You will feel hazy and dizzy if you don’t eat”

■ Reality

- Quite the opposite it seems!
- Post lunch sleepiness anyone?
- Long term dieting is worse for mental aptitude than short term fasting (Van Proeyen et al (2011), Green et al, (1994))
- Improvements in verbal memory with fasting (Witte et al, 2009)

Myth 6

“You will lose muscle...”

■ Reality

- Increase in GH levels (6x) during fasting prevent this (Hartman, 1992)
- Cortisol levels unchanged with fasting (Soules et al, 1994)
- Takes 9 days of continuous fasting for testo levels to go down significantly (Klibanski et al, 1981)
- Many studies support low caloric intake through fasting will not decrease muscle mass if resistance training is done (Bryner, 1999)

Myth 7

“Breakfast is the most important meal of the day and skipping it will make you fat”

■ Reality

- Skip breakfast -> eat more calorically dense foods later in the day -> won't offset the calories you missed at breakfast.
- Over eating will not occur if you skip breakfast (Martin et al, 2000)
- Skip breakfast -> know my insulin levels are dropping, growth hormone is being released and fat is burning off... 😊

cont...

- The more you eat at breakfast the more you eat during the day
- Breakfast will kick start your metabolism...?
 - Not true, Basal Metabolic Rate is hardly affected by food intake (more by muscle mass and weight)
- “Insulin sensitivity is best in the morning!” therefore you can eat carbs/what you want...
 - Not totally accurate...just good after a fast!

My daily eating pattern

- Morning drinking water or green tea
- Midday or 1pm eat - train before hand if poss
 - exercise on an empty stomach is good for leptin sensitivity (Guerra et al, 2011)
- 4pm eat
- 7pm eat
- 8pm till midday the next day I fast...
- Different options depending on how “hard” you want to go...

Is IF too hard or not?



- I don't think so...
 - Andrew you're soooo disciplined! "when" v' s "what..."
- Takes some time to get used to it, eating is very habitual...the less you eat the less hungry you are.
- Psychological battle – I am hungry I must eat! or or or I might die or something!
 - Sure, sure you will...whatever...
- Relax on it would you...you're hungry, so?

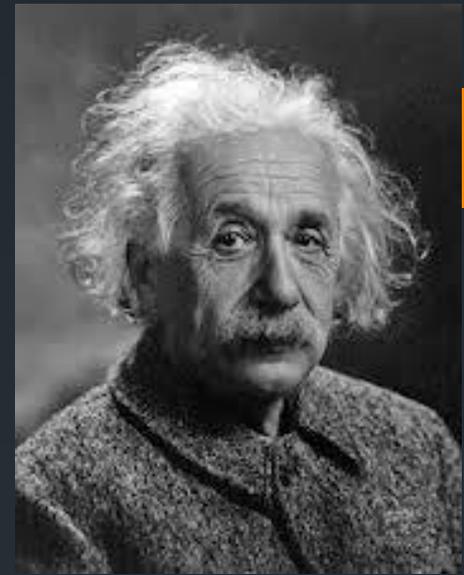
Last thoughts on fasting...

- Needs to be manageable and to not feel like you are depriving yourself...because if you feel like you are then it won't work as you'll need to lash out...
 - Leptin (fullness hormone) levels decrease with reduced caloric intake...but exercise done on an empty stomach helps leptin receptors which seems more relevant (Guerra, 2011)
- Websites
 - www.leangains.com
 - www.eatstopeat.com

So, where to from here?

- Hey buddy, I am just here because I was told to come so I don't really care what you've said...
- Well, I'll listen and consider it but I'll probably disregard it or never get round to doing anything with it so yeah, thanks...
- Thanks for coming along, this was awesome, I am into it and want to use this!!

The 2nd last slide...



- Are you going to listen to Einstein or not?

If you continue to do what you've always done
you're going to continue to get what you've always
got...

Your feedback...

- Would be most welcome... 😊

