

SCW

MANIA[®]

Fitness Pro Conventions



scwfit.com/MANIA

MANIA® Attendee Exclusive Content



**Session & Cert
Evaluations**



**Outlines &
Handouts**



**MANIA®
Schedule**



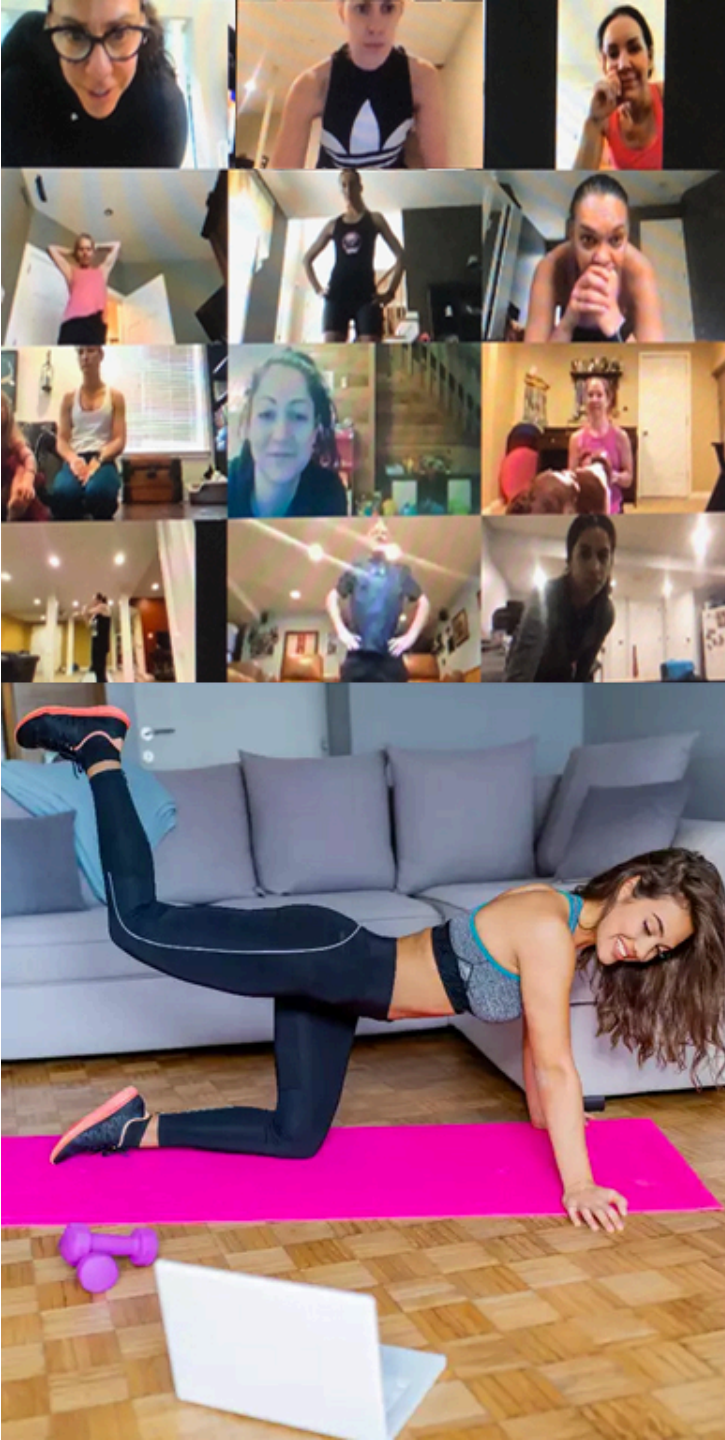
Get Your CECs
Short MANIA Survey



**Expo Coupons
& Discounts**



scwfit.com/attendee



#SCWMANIA @SCWfitness



facebook.com/scwfitness



twitter.com/scwfitness



instagram.com/scwmania

20% OFF!

**\$6.58/Month or
\$79/year**

(Norm. \$8.25 month or \$99/year)

USE CODE: MANIA20

500+

Educational Videos

70+

Leading Presenters

20+

**Fitness & Health
Topics Available**

SCW
On Demand

scwfit.com/OnDemand

- ACTIVE AGING
- ACTIVE AGING NUTRITION
- AQUA BARRE
- AQUATIC EXERCISE
- BARRE
- BOXING
- CORE TRAINING
- FLOWING YOGA
- FOAM ROLLING
- FUNCTIONAL FLEXIBILITY
- FUNCTIONAL PILATES
- GROUP EXERCISE
- GROUP FITNESS DIRECTOR/STUDIO OWNER
- GROUP STEP
- GROUP STRENGTH
- HIIT
- KETTLEBELL
- KIDS IN MOTION
- LIFESTYLE & BEHAVIORAL COACHING
- MEDITATION
- MIND BODY FUSION
- MOMS IN MOTION
- NUTRITION, HORMONES & METABOLISM
- PERFORMANCE STABILITY TRAINING
- PERSONAL TRAINING
- PILATES MATWORK
- PILATES SMALL APPARATUS
- SMALL GROUP TRAINING
- SOCIAL MEDIA
- SPORTS NUTRITION
- T'AI CHI
- WATERINMOTION®
- WEIGHT MANAGEMENT
- YOGA I & II



CERTIFICATIONS

35+ NATIONALLY RECOGNIZED. ONLINE + LIVE.

FREE LIVE COURSE included with
every Online Certification
within 1 year

scwfit.com/certifications





ONLINE CEC VIDEOS

Earn CECs in the comfort and convenience of your home!



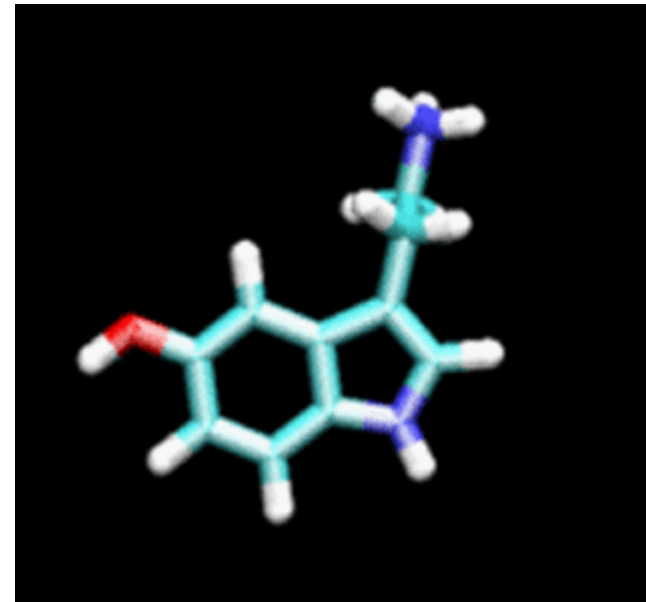
scwfit.com/CECS

The Pros and Cons of Intermittent Fasting

Melissa Layne, Med
Melissa.layne@ung.edu

The Biochemistry of Fasting

- Fasting is not starvation
- Fasting represents the time one can safely abstain from food
- The body undergoes a series of hormonal and metabolic changes to conserve its body mass and draw selectively from its supply of energy in adipose tissue



Is Fasting a Positive Thing?



Bottom Line

- What is your ultimate goal?
- What is your periodization goal?
- What is your daily goal?



Research



- Studied since the 1930s
- Reducing calories helped mice live longer
- More recent studies showed the same with fruit flies, round worms and monkeys
- Decreasing calorie consumption by 30-40% can extend a life span by a third
- May increase the body's responsiveness to insulin, hormone optimization
 - Increased growth hormone secretion
- Teaches the difference between stomach hunger and head hunger
- UK study of the 5:2 diet in 2012

Research Surrounding Fasting

- Animal research has shown that intermittent fasting and calorie restriction may increase the life span by creating a stressor to adjust.
- In a fasted state an uptake in genes (PDKL , HSL) indicated an increase in the use of stored fuel to fuel metabolism.
 - Same genes decreased with eating before an endurance event
- Fasting only 25% of one day (6 hours) showed no change in the metabolic reactions of the body.
- One low carb day decreases insulin resistance increasing insulin cell sensitivity.
- A diet of 80% simple carbs and 20% SAFA created arthritic knees and a smaller hippocampus in just two weeks
- Sugar substitutes don't help weight loss attempts;
 - Aspartame actually blocks the intestinal enzyme that keeps us from getting fat
 - Sucralose increases fat production and inflammation



Intermittent Fasting

- Beneficial effects for reducing insulin, triglycerides and blood glucose
- Recommendations vary on what can be consumed during fasting periods (tea, coffee, artificial sweeteners?)
- Two types
 - Whole day fasting involves regular one day fasts
 - Alternate day fasting (ADF) – 24 hours fasting (500-600 calories) followed by 24 hours nonfasting
 - Time-restricted feeding (TRF) involves eating only during a certain number of hours each day.
 - Fasting for 16 hours, eating for 8
 - Fasting for 12 hours, eating for 12 hours
 - Eating one meal per day and fasting for 23 hours



5 Popular Methods in Research

- Remember- trends drive research – not vice-versa
 - Lean gains
 - Eat Stop Eat
 - Warrior Plan
 - Fat Loss Plan
 - Alternate Day Fasting (ADF)



Lean Gains

- Fast 14 for women, 16 hours for men; maintain a constant regular feeding schedule; sleep for 8 of the 14 or 16 and go into the morning in a fasting state
- Coffee, tea and artificial sweeteners are allowed
- Break the fast roughly 6 hours after waking
- Macro percentages are based on type of workout



Eat Stop Eat

- Fast for 24 hours once or twice a week; start gradually and gradually reduce caloric intake
- Think of it as “taking a break from food”
- Eat real food and plan on a caloric restriction



Warrior Plan

- Fast for 20 hours each day and eat a large meal at night; can have raw fruit or vegetables during day;
- Inherently programmed as “nocturnal eaters” in sync with the Circadian rhythm



Fat Loss Plan

- Combines all of the above, giving you a cheat day (Sunday)
- On 630 calories for each of the 3 meals on eating days, Tuesday through Saturday
- Fast day may be 24 or 36 hours (Monday)



Alternate Day Fasting

- Eat very little one day and eat normally (Harris-Benedict calculator) the next (1/5th), down day should be 400-500 calories total
- Work out on normal caloric days
- Extremely hard to stick with



Ketosis



- Most cells can use both glucose and ketone bodies for fuel.
- Longer term ketosis may result from fasting, staying on a low carb diet or as a treatment for epilepsy.
- In glycolysis, higher levels of insulin promote storage of body fat and block release of FFA from adipose.
- While in ketosis, fat reserves are readily available , released and consumed.
- Beginning, blood glucose levels are maintained from gluconeogenesis because the adult brain does not burn ketones.
- After about 48 hours (72 for males), ketones are burnt to save glucose and avoid depletion of muscle protein.

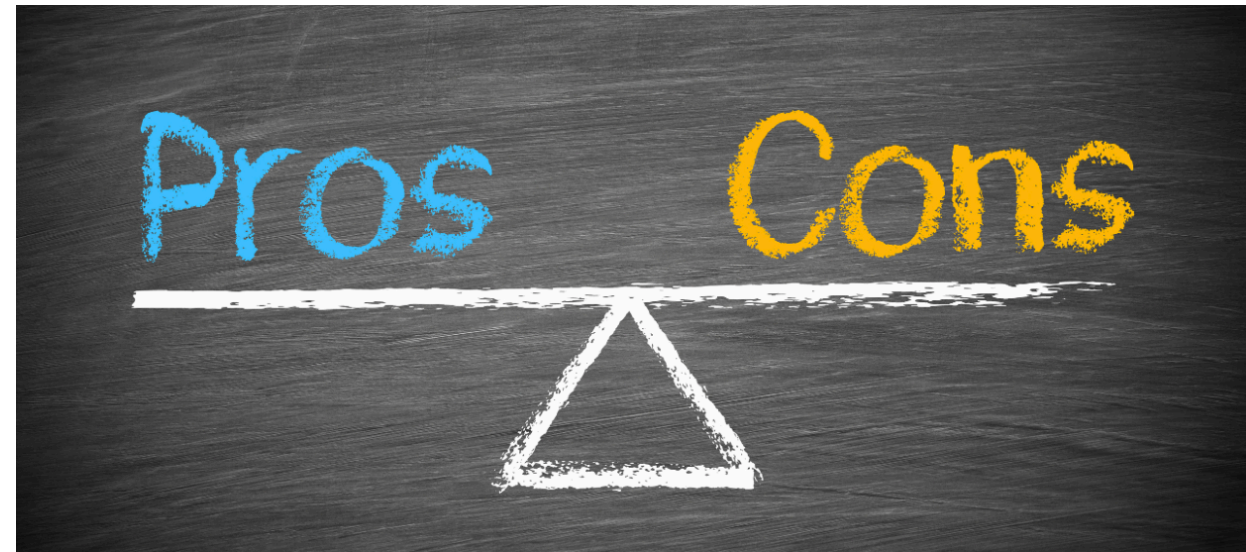
Pros



- Definitely helps with weight loss
- Definitely helps with decreasing acidity and toxins
- Definitely helps with hormone regulation and sensitivity
 - Insulin sensitivity – if we pound cupcakes into our systems, they need minor time off or a short overhaul
 - Cortisol – eating poorly increases stress levels, taking a break decreases levels
- Helps with determining mental vs physical hunger sensations
- Helps with determining the difference in hunger and thirst
- Decreases plaque and lowers temporary BP in cardiac patients
- Increases growth of gut bacteria

Cons

- May inhibit a strong anaerobic workout
- May inhibit a stronger EPOC
- Not made for those who are trying to gain
- Definitely helps with decreasing acidity and toxins
 - Not safe for those in disease states



Hormones



- Insulin
 - Anabolic hormone produced in the pancreas, traveling to all muscle cells to help with the storage of glucose as glycerol in the muscle tissue
 - The receptor cells on the muscle cell wall are more sensitive after a catabolic event such as a workout or a fasting period (anything that depletes glycogen)
- Growth hormone
 - Fasting causes an increase as often seen with higher levels in the early morning sleep hours
 - Is believed to offset the effects of cortisol which increases body fat
 - Increases the rate of hypertrophy
 - Works with leucine for satellite cell theory

Tips for Getting Started

- Drink plenty of water
- Fast overnight
- Rewire your thought processes to “taking a break” instead of deprivation
- Hit the gym moderately
- Start with short fasting windows and gradually increase



Training Strategy

- Train low
 - Prompts helpful metabolic changes such as increased FFA availability
- Train high
 - Less fatigue
 - Better intestinal function
- Train the gut
 - Leads to adaptations that improve nutrient delivery and reduce GI sensitivity
- Train with race day nutrition
 - What works well through proven performance



TRUE OR FALSE?



- You can't exercise on an empty stomach.
- You need to eat complex carbs before you workout.
 - Ketogenic diets lower performance.
 - Ketogenic diets take three to four weeks to see results.
 - Floods of FFA cannot be efficiently converted to acetyl CoA so ketones appear in increased amounts
- You need to eat carbs immediately after your workout.
 - To increase your glycogen stores so that your next performance is GREAT
 - But what if weight loss is your goal?
 - Your EPOC will now be fueled mainly by ketones and gluconeogenesis
 - While it is believed that carb intake after exercise is the best way to replace glycogen, studies have shown that after an adaptation period of 2-4 weeks, physical endurance (not intensity) is unaffected by ketosis

TRUE OR FALSE?



- You need breakfast to break the fast
 - Fasting is fasting no matter when it occurs
 - Hunters and gatherers rarely ate breakfast.
 - 90% of the population eats breakfast
 - 67% of the population is overweight or obese
- Eating raises your metabolism
 - Eating has a thermic effect of food (TEF) and dependent on which macronutrient you eat, your body increases metabolism to break down that food
 - But it doesn't continue indefinitely and you don't burn all the calories you eat
 - Net effect is the same whether you eat three or six times (it's a percentage of calories)
 - It has also been studied that eating more often with smaller portions doesn't satisfy everyone. Larger meals seem to cause a larger feeling of satiety.

Take Away

- Totally dependent on your periodization goal!
- Questions?



www.scwfit.com/BN19

