



## Training Plan - John Smith

### Goals:

- Learn to have a balanced exercise routine
- Improve overall health
- Reduce stress
- Feel Better
- Be strict on snacking
- Cut out sugar and snacks
- Improve strength and power
- Improve flexibility
- Improve endurance

**Phase 1:** Long list of goals - Focus is to increase many elements of fitness and diet whilst improving overall health and building muscle

**Duration:** 8 weeks

### **Training Plan Recommendations**

- Track your progress with one or more of the following measurement systems. Body fat callipers, shirtless photos, tape measurement or the weight on the scale.
- Low intensity daily activity is very important for overall health alongside planned training sessions. Walk a minimum of 10k steps per day and work up 15k or more.
- Getting enough quality sleep is also vital to any training program. You will not see optimal strength, hypertrophy, fat loss or general fitness gains without adequate sleep. A lack of sleep also causes hunger hormone levels to shoot up stimulating your brain to tell you to find food. Get an absolute minimum of six hours quality of quality sleep per night.

Based on your questionnaire and genetic output, you have an increased response to both power and endurance. I recommend 3 resistance training sessions, 2 cardio sessions and 1 yoga/pilates session per week.

As you have an increased response to power, completing at least three full body power based resistance training sessions per week will speed up your progress towards your goals. Plus full body resistance training three times a week is vital to promote glucose uptake and normalise hunger signalling. By completing full body resistance training you are stimulating large amounts of skeletal muscle to uptake nutrients such as glucose and improve insulin sensitivity. This will dramatically help you progress towards your goal to be strict on snacking.

For cardiovascular fitness, incorporating high-intensity interval training (HIIT) could be a beneficial way to train for your genotype. As you respond positively to endurance training I suggest two cardio sessions per week, one HIIT based and one LISS based (detailed below).

Alongside this it is also critical you do not sit sedentary for hours at a time at work. With your genetic profile this is key for fighting against type II diabetes. Make sure you get up and move every hour, even if it means a short 3min walk or some bodyweight squats at your desk.

To line your training program up with your goals of building muscle and improving overall health, resistance training and HIIT will be the cornerstones of your program. All three sessions below will encompass strength, hypertrophy and power training. Alongside this you have several bouts of HIIT programmed at the end of your resistance training sessions as you gain higher protective effects of circulating HDL after participating in exercise with high intensity. If you can stay consistent with these three sessions for eight weeks you will see dramatic changes. Loading your body with weight not only builds muscle and strengthens bones but it enables you to eat more calories and sculpt your physique as your nutrient partitioning improves. This is critical for positive appearance changes, otherwise you end up with the exact same body at a lower weight which is not what we want. We want to strip the fat and build the muscle.



In your program below pay attention to the rep ranges, tempo and rest periods as this is where specific adaptations are stimulated. Do not rest for a random amount of time and move on to the next exercise. For example, to attain maximal strength adaptations you need to rest for ~180s between sets to ensure your creatine phosphate system is back up and running.

As you have an increased chance of developing achilles tendinopathy make sure you thoroughly warm up before any exercise activity and do not perform any lower body power training to fatigue. For example do not do box jumps to fatigue. Instead complete them in small controlled sets to develop power as programmed below. Additionally complete some slow and controlled daily calf raises on steps to help strengthen the musculature in your lower legs.

To tackle your goal of increasing flexibility complete one yoga/pilates session per week. This can be class based or you can even follow along to a Youtube tutorial. Additionally follow a simple static stretching routine after your training sessions and complete 10mins of mobility work every single day. You will see much bigger increases in flexibility with increased frequency. For example six 10min sessions per week rather than one 60min session per week. In addition to this you want to have mobility and control in these new ranges of motion as you become more flexible. I have listed a full body mobility routine below to follow which will just take 10mins per day and make a massive difference to the way you move, your posture and the way you feel.

#### Summary

- Minimum of 3 resistance training sessions with a power focus (outlined below)
- 2 cardio sessions to increase endurance and training enjoyment
- 1 yoga/pilates session to tackle goal of increasing flexibility
- Follow a simple static stretching routine after training sessions
- Complete 10min mobility work every single day

#### **Resistance Training Training Plan Guidelines**

- . BB = Barbell, DB = Dumbbell, AMRAP = As many reps as possible
- . Exercise A1 - A3 are performed in series and repeated until the recommended number of sets are done. A1 and A2 would be a superset, A1, A2 and A3 would be a triset.
- . Take each set two reps short of failure. Failure is the point at which your form breaks down and you cannot complete a perfect rep.
- . Progressively add weight. If you complete the prescribed sets and reps with perfect form increase the weight.
- . Tempo is broken down into 4 components - Downwards/eccentric movement, bottom, upwards/concentric movement and top. When tempo is written as 3010 it means 3 seconds on the eccentric phase, 0 second pause at bottom, 1 second concentric and a 0 second pause at the top before repeating the exercise.
- . Make sure you complete a thorough full body warmup lasting at least 5 minutes followed by at least one warm up set of each exercise before you start the first heavy set.

#### **Phase 1 - 8 weeks**

##### **Warm Up**

- Complete a dynamic full body warm up (example below) before every workout. It will prime your body to help with coordination, improve your exercise form and help avoid injury. Perform each exercise below 10-20 times and ensure you perform unilateral exercises on both sides of your body. It should last around 5 minutes and you should have a raised heart rate at the end of it. AVOID ALL STATIC STRETCHING BEFORE YOUR WORKOUT.



After Each Training Session - 5mins	Exercise	Reps
1	High Knees	10-20
2	Arm Circles	10-20
3	Jumping Jacks	10-20
4	Squats	10-20
5	Lunges	10-20
6	Lateral Lunges	10-20
7	T Spine Page Turns	10-20
8	Inch Worms	10-20
9	Dynamic Frogger	10-20
10	Toe Touches	10-20

### Resistance Training Session A - Full Body Bilateral Strength Focus

Day 1	Exercise	Sets	Reps	Tempo	Rest (secs)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)
A1	BB Back Squat	3	4-6	2010	180+				
B1	BB Bench Press	3	4-6	2010	180+				
C1	BB Deadlift	3	4-6	1010	180+				
D1	Wide Grip Pull Ups (band assisted if required)	3	4-6	2010	180+				
E1	BB Bent Over Row	3	4-6	2010	180+				
F1	BB Overhead Press	3	4-6	2010	180+				
G1	HIIT Finisher	1	20secs on vs 10secs off on any cardio equipment at maximum intensity for a total of 4mins						

### Resistance Training Session B - Full Body Power Focus

Day 3	Exercise	Sets	Reps	Tempo	Rest (secs)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)
A1	Plyometric Push Up	2	6	20/0	3min				

A2	DB Snatch	2	6	20/0	3min				
A3	Box Jumps	2	6	20/0	3min				
A4	Rack Pull Deadlift	2	6	20/0	3min				
B1	Kettlebell Swing	5	20	20/0	1min				
B2	DB Thrusters	5	20	20/0	1min				
B3	DB Squat Jumps	5	20	30/0	1min				
C1	HIIT Finisher	1	30secs on vs 30secs off on any cardio equipment at maximum intensity for a total of 20mins						

### Resistance Training Session C - Full Body Unilateral Hypertrophy Focus

Day 2	Exercise	Sets	Reps	Tempo	Rest (secs)	Weight (kg)	Weight (kg)	Weight (kg)	
A1	DB Walking Lunges	3	8-12	3010	90				
A2	DB Romanian Deadlift	3	8-12	3010	90				
B1	DB Incline Bench Press	3	8-12	3010	90				
B2	DB Single Arm Row	3	8-12	3010	90				
C1	Lat Pulldown	3	8-12	3010	90				
C2	DB Neutral Grip Shoulder Press	3	8-12	3010	90				
D1	DB Alternating Bicep Curls	3	8-12	3010	0				
D2	DB Lying Tricep Extensions	3	8-12	3010	0				
D3	DB Russian Twists	3	8-12	/	0				
E1	HIIT Finisher	1	20secs on vs 10secs off on any cardio equipment at maximum intensity for a total of 4mins						

### Cardio Sessions & Additional Workouts

- One HIIT session (this can be a social fitness class) e.g. outdoor sprints: 100m sprint 2min rest. Repeat x 10.
- One LISS session (this can be a social fitness class) e.g. moderate-long distance jog for 30+ mins.
- Build up to walking 15k steps per day. This will not only help increase insulin sensitivity but reduce stress and help circulate your lymph fluid all aiding in improving overall health.



- Consider joining a regular social fitness sport (such as dance, calisthenics, football, volleyball, martial arts, boxing etc) for a different stimuli which would help with training motivation and athleticism

### Flexibility and Mobility

- Complete a full body static stretching routine after each training session to maintain flexibility. Hold each stretch for at least 30 seconds constantly forcing the end range of motion further and further.
- Additionally include one session of yoga/pilates per week to increase your overall flexibility.

After Each Training Session	Exercise	Time	Sets
1	Side Neck Stretch	30s	1
2	Cross Body Shoulder Stretch	30s	1
3	Overhead Push Stretch	30s	1
4	Trapezius Stretch	30s	1
5	Overhead Tricep Stretch	30s	1
6	Wall Pec Stretch	30s	1
7	Pigeon Glute Stretch	30s	1
8	Frogger Hip Flexor Stretch	30s	1
9	Knee Down Lunge Stretch	30s	1
10	Lying Quad Stretch	30s	1

### Mobility

- Mobility is different to flexibility. Mobility is the ability of a joint to move ACTIVELY through a range of motion. This means you do not just focus on length and reaching a new range of motion. You also need to engage your muscles and tense the target muscles during the exercise to build control in your specific range of motion. This means you are moving throughout each exercise and tensing the muscles as you move. As many of us are naturally tight and immobile this will have a huge impact on how your body moves, looks and feels. Poor mobility is often a source of pain and injuries but fortunately mobility is something everyone can improve fairly quickly with consistent effort. If the movements are new to you simply type them into youtube for an instructional video.

Everyday for 10mins	Exercise	Time	Sets
1	Shoulder Dislocates	1min	1
2	Prone Cobra	1min	1
3	Lizard With Rotation	1min	1
4	Sphinx	1min	1
5	Supine Scorpion	1min	1

6	Hurdler Hamstring Stretch	1min	1
7	Dynamic Frogger	1min	1
8	90/90	1min	1
9	Pigeon	1min	1
10	Raised Leg Quad Wall Stretch	1min	1

## Nutrition Plan - John Smith

### Goals:

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**Phase 1:** Long list of goals - Focus is to increase many elements of fitness and diet whilst improving overall health and building muscle

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**Based on a Body weight of 52kg and a BMR 1170kcal (TDEE 1609)**

**Maintain body weight = 1609 calories per day**

**Lose body fat: 25% deficit = 1207 calories per day**

**Gain lean muscle: 10% surplus = 1770 calories per day**

If your aim is to increase muscle mass you will need to increase your calorie intake alongside resistance training. If your aim is to decrease body fat you will need to gradually adjust your calories down to keep progressing. Keep protein and fat at the same level and take calories away from your carbohydrate allowance.

**Linear Strategy:** Same macronutrient profile across the week

**Macronutrient split for fat loss = 1207 cal**

- Protein: 120 g / 478 calories (2.3g per kg of bodyweight )
- Fats: 34 g / 302 calories (@ approx 25% of total cal)



- Carbs: 107 g / 427 calories

#### **Macronutrient split for lean muscle gain = 1770 cal**

- Protein: 120 g / 480 calories (2.3g per kg of bodyweight )
- Fats: 49 g / 441 calories (@ approx 25% of total cal)
- Carbs: 212 g / 849 calories

Based on your questionnaire and genetic output there are several big sections that need tackling with your nutrition plan.

Firstly you have several genes that indicate you have a higher propensity to increase food intake contributing to weight gain. You have a slightly impaired response to feeling full, a decreased food pleasure response, increased snacking behaviour response, impaired conversion of proinsulin to insulin, above average chance of elevated fasting blood glucose, impaired insulin secretion, and decreased insulin sensitivity, which can all lead to an increased chance of overeating and gaining body fat. Therefore it is critical that you follow a consistent meal structure and initially track your food intake so you understand the amount of energy (calories) you are consuming.

As you have indicated you have very extremely high hunger levels from lunch onwards, I recommend you restructure your eating pattern. Focus on high volume foods alongside increasing insulin sensitivity. Additionally excessive hunger can be an indicator of a vitamin or mineral deficiency. Therefore I suggest a three pronged attack. A meal structure consisting of 5-6 smaller meals per day to keep you satiated and avoid sugar cravings. Secondly each meal to contain a protein source accompanied by at least a palms worth of high volume high fibre vegetables (non starchy vegetable list below). Thirdly take a high quality multivitamin to make sure all your key minerals and vitamins are covered.

Understanding correct portion sizes is vital to your success. To start with use a scale and a food tracking app such as myfitnesspal to ensure you are hitting your calorie and macronutrient numbers. This will give you a thorough understanding of the amount of energy in the food you are eating. It will be a revealing practice to track a week of your usual food intake and see if you are close to your calorie estimation of 2000. After several weeks of recording data you will start to understand the amount of energy in the most common foods you eat and their macronutrient breakdown.

Secondly you have a couple of genes indicating your body has an impaired response to process sugar leading to an increased chance of developing type II diabetes. Therefore it goes without saying that avoiding mainlining sugar into your system from fizzy drinks, sweets and other sugary foods is critical. Instead satisfy your sweet tooth with low calorie high fibre fruit such as berries and if you really need to sweeten things use stevia. Additionally, you need to ensure that the glycemic load of your meals is not too high (exception: around training sessions). Therefore always have a source of fibre with your meals and when consuming carbohydrates consume unprocessed complex carbohydrates (rice, potatoes, quinoa, buckwheat, oats or fruit).

Considering your genetic output optimising insulin sensitivity is key for your goals and overall health. Here are a few pointers to help you dramatically improve your insulin sensitivity.

- Full Body Resistance Training Workouts to stimulate muscle glycogen uptake
- HIIT anaerobic training to build lactate threshold
- Minimum of 10k steps per day
- Postprandial walk (always walk for 10-15mins after a high carbohydrate meal) to blunt the blood sugar spike
- Increase magnesium intake (spinach, swiss chard, dark chocolate, pumpkin seeds, almonds, black beans, avocado, figs, yoghurt & banana)
- Supplement with ceylon cinnamon. 3-6g per day
- Supplement with apple cider vinegar. 10-25ml shot with high glycemic foods. ACV is a nutrient partitioner meaning that it improves insulin signalling to lean tissues so energy is less likely to be stored as fat.



- Movement 'snacks' through the day. Don't sit sedentary for hours on end. This allows lymph to move through your body and shift metabolic byproducts out of your system.

Thirdly you have a few sensitivities to consider.

-Lactose tolerance: You are also lactose intolerant indicating that dairy products will cause you discomfort. Therefore reduce or eliminate dairy intake when necessary

-Likely to have vitamin D deficiency: Low levels of vitamin D not only affect bone metabolism but can also weaken your immune system, therefore impacting your overall health. Consider increase your dietary intake of vitamin D or take daily vitamin D supplements. Getting more sun exposure time may also be beneficial. Some examples include cod liver oil, fish (sardines, tuna, salmon, mackerel), eggs, mushroom

-Likely to have a vitamin A deficiency: consume foods such as beef, liver, carrots, sweet potato, spinach, kale and broccoli to keep this topped up.

Additionally-under drinking each day and being dehydrated impacts everything from mood to your immune system to mental energy to physical performance. You have to increase your water intake from 3L to 4-5L per day. You also need to keep your fruit and vegetable intake to an absolute minimum of five portions per day. Please see your example plan below.

#### **Example Meal Plan for a fat loss day of eating**

- Meal 1 - Fatty Protein + Non Starchy Vegetables
- Meal 2 - Lean Protein + Non Starchy Vegetables
- Training Session
- Meal 3 - Lean Protein + Starchy Carbohydrate + Non Starchy Vegetables
- Meal 4 - Fatty Protein/Lean Protein and Fat Source + Non Starchy Vegetables
- Meal 5 - Lean Protein + Starchy Carbohydrate + Non Starchy Vegetables
- Increase water intake to 4-5L per day

To hit your macronutrient targets for a lean muscle gain meal plan just include additional complex carbohydrates in Meals 1,2 and 5.

#### **Nutrition Plan recommendations**

- Avoid artificial sweeteners due to the potential disruption they cause to the gut microbiome.
- Make sure you track alcohol so you are aware of the total amount of calories you are taking in.
- On non-training days stick to the same meals at the same times.
- Drink 4-5 Litres of water minimum per day.
- Limit all processed food. This includes processed starches such as bread and pasta.
- Limit processed complex carbohydrates such as bread, cereal, pasta and couscous.
- Limit processed oils such as sunflower, rapeseed, corn, soybean, cottonseed, safflower, sesame and peanut.
- Completely avoid all trans fat

#### **Food preparation guideline**

- When weighing food remember that **proteins** are ALWAYS weighed after cooking and **carbohydrates** BEFORE cooking.
- Try to prepare the majority of your meals as eating out requires you to guess the calories and macros. It is nearly impossible to accurately determine your energy intake when eating out. .
- I recommend creating a weekly meal plan of foods you enjoy that fit your calorie and macronutrient allowance. Batch cook meals in advance to get prepared as this makes sticking to your plan and getting results much easier. Consistency is key to your success.

**Food Key**

<b>Fatty protein</b>	Salmon, mackerel, sardines, beef, lamb, other red meats, pork, duck whole eggs or whole cuts of white meat such as leg or thigh
<b>Lean protein</b>	White fish, chicken breast, turkey breast, prawns, venison, egg whites, greek yoghurt, cottage cheese, whey protein, quorn, tofu or other meat replacements
<b>Fat portion</b>	Seeds, nuts, avocado, olive oil, coconut oil, nut butter, olives and any other "good" non-animal fats
<b>Carbohydrate</b>	Sweet potato, white potato, rice (any type), quinoa, buckwheat, oats, amaranth, fruit (all), carrots, sweet corn, beetroot, yam, parsnip, turnip, butternut squash, celeriac and other root vegetables
<b>Non starchy vegetables</b>	Artichokes, Asparagus, Aubergine, Bok/Pak Choy, Broccoli, Brussel sprouts, Cauliflowers, Celery, Chard, Collard Greens, Courgette, Cucumber, Dandelion Greens, Fennel, Green Cabbage, Kale, Leeks., Lettuce, Mustard Greens, Okra, Peppers, Radish, Red Cabbage, Red onions, Rocket, Romaine Lettuce, Salad Leaves, Spinach, Watercress, White onions, Mushrooms (Fungi!)