

BLOOD TEST AND BODY MEASUREMENT FOR ATHLETES



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LEARNING OBJECTIVES:

1. What is a Calorie?
2. Resting Metabolic rate - RMR
3. How to calculate RMR
4. Calorie utilisation and Activity type
5. Essential blood tests for an Athlete
6. Body Composition Assessment for an athlete

What is a calorie? - Emma Bryce



CALORIES



0:08 / 4:11



WHAT
IS
IT?

RMR - RESTING METABOLIC RATE

FORMULA TO CALCULATE RMR:

(RMR) KCAL/DAY:(MALES) = 9.99 X WEIGHT (KG) + 6.25 X HEIGHT (CM) - 4.92 X AGE(YEARS) + 5;

(RMR) KCAL/DAY:(FEMALES) = 9.99 X WEIGHT(KG) + 6.25 X HEIGHT (CM) - 4.92 X AGE (YEARS) - 161.

Average Indian male 25 year old, 180cm 70kg



Calories Required: BMR x 1.55

Calories burned: 300 cal

Running@5mph/30mins

Average Indian male 25 year old, 180cm 70kg



Calories Required: $BMR \times 1.35$

Calories burned: 200 cal

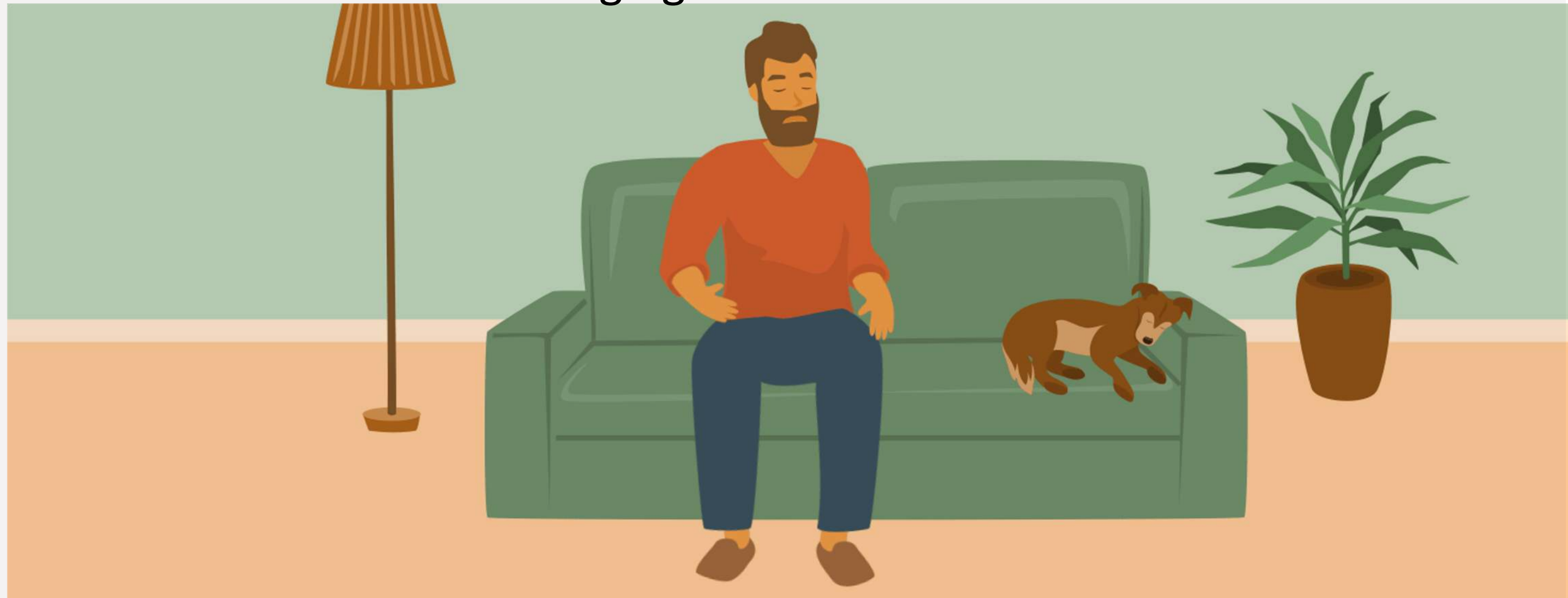
With 1 hour of chores

Average Indian male 25 year old, 180cm 70kg

Calories Required: BMR x 1.2

Calories burned: 50 cal

with lounging for an hour



CALCULATE YOUR OWN RMR:

BMI Calculator

Your Weight (kg):

Your Height (cm):

BMI Result

Your BMI:

My Comment:

Calorie Calculator

Age: years

Gender: Male Female

Height: '

Cms :

Weight: Kg

Activeness:

Calorie Result

Calorie Needed: Grams

You Must Intake The Following Daily

Fat: per day

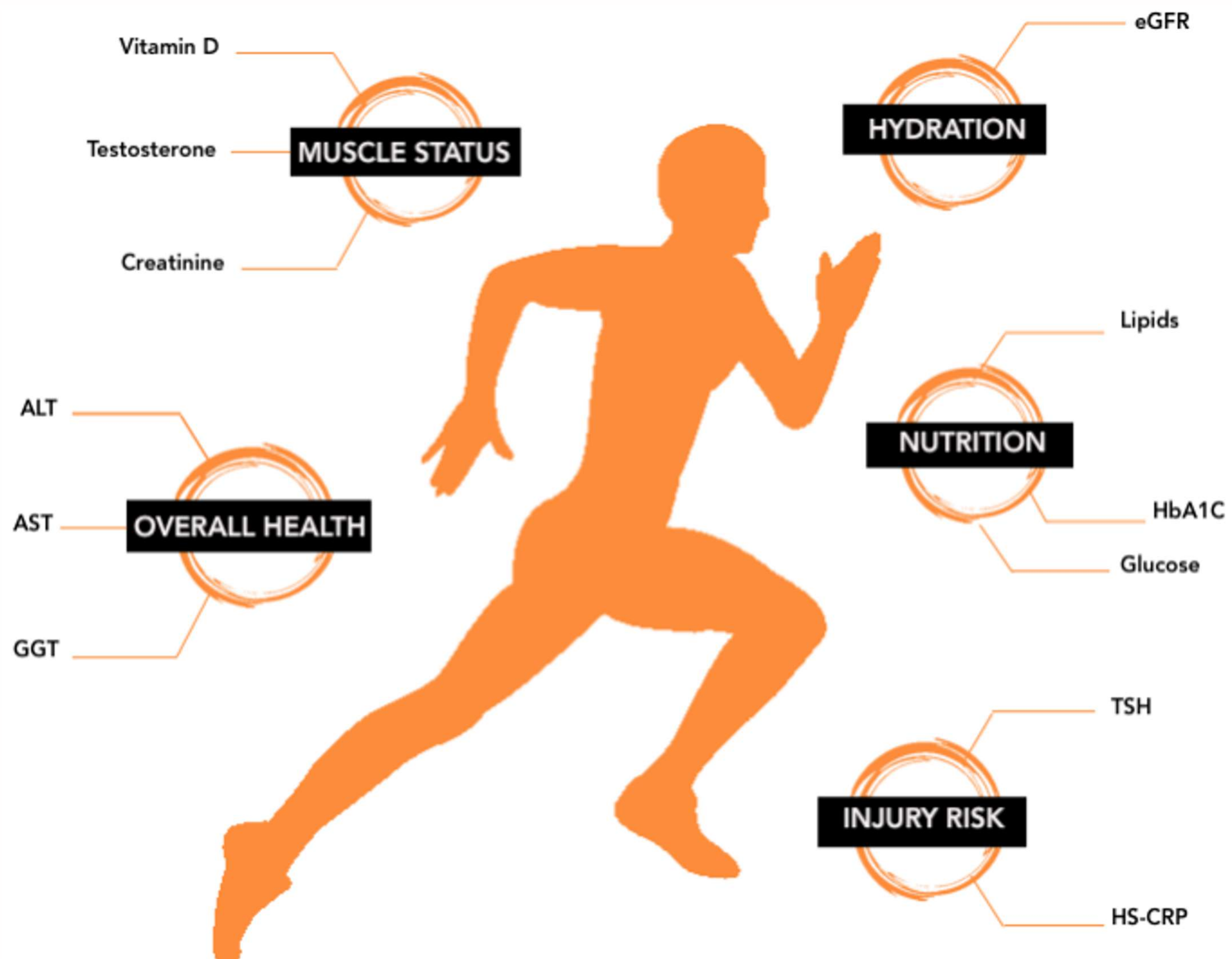
Protein: per day

Carbohydrate: per day

Alcohol: per day

Important Blood parameters for an athlete:

1. Haemoglobin
2. Iron
3. Vitamin B12
4. Ferretin
5. SGOT
6. SGPT
7. Blood urea
8. Sr. creatine
9. Ur. creatine
10. Urine protein



1. Complete Haemogram
2. Iron/Transferin/ Transferrin Saturation%/ Ferritin
3. Lipid Profile Test
4. Liver Function Test
5. Renal Profile Test (Blood Urea Nitrogen/ Creatinine/ Electrolytes/ Calcium)
6. Serum Uric Acid
7. Blood Total Testosterone
8. Thyroid Function
9. Glycosylated Haemoglobin (HbA1c)
10. Vitamin B 12 levels, Folic Acid, Vitamin D total
11. HSCRP (High Sensitive C reactive Protein)
12. E- Glomerular Filtration Rate
13. Fasting Insulin
14. Complete Urine Analysis Reporta. Glucoseb.Bilrubinc. Ketoned. Protiene. Uribilinogend. Leucocytese. Microalbuminf. Creatinineg. Albumin

QUA Nutrition Basic Blood test Panel:

REAL TIME IMPROVEMENT IN BLOOD PARAMETER THROUGH NUTRITION INTERVENTION

Vitamin B12
(Cynocobalamin)
(pg/mL)



480.1 480.1 480.1 823 823 823 82

SGOT/Aspartate
Aminotransferase
(AST) (U/L)



25.8 25.8 25.8 17.4 17.4

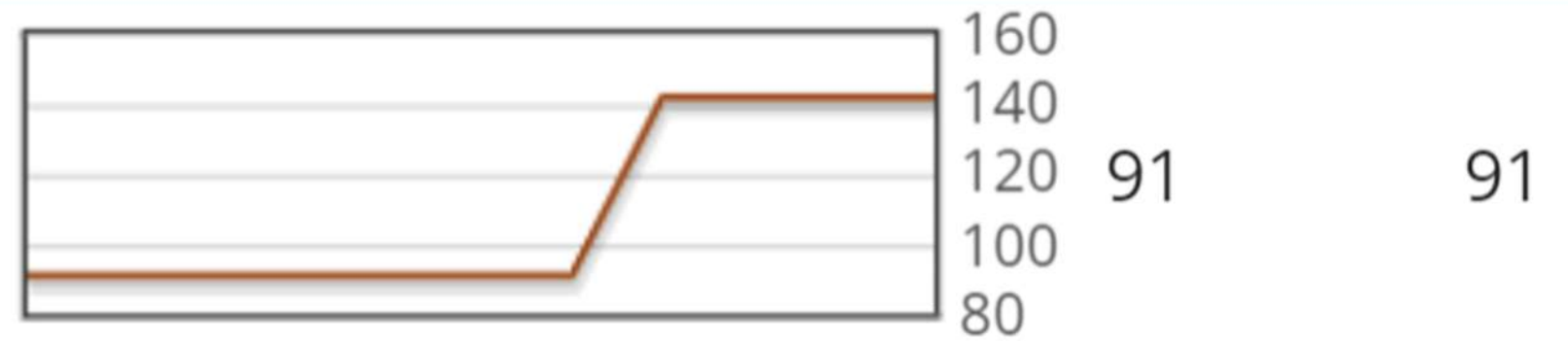
SGPT / Alanine
Transaminase
(ALT) (U/L)



18.4 18.4 18.4 16.5 16.5

REAL TIME IMPROVEMENT IN BLOOD PARAMETER THROUGH NUTRITION INTERVENTION

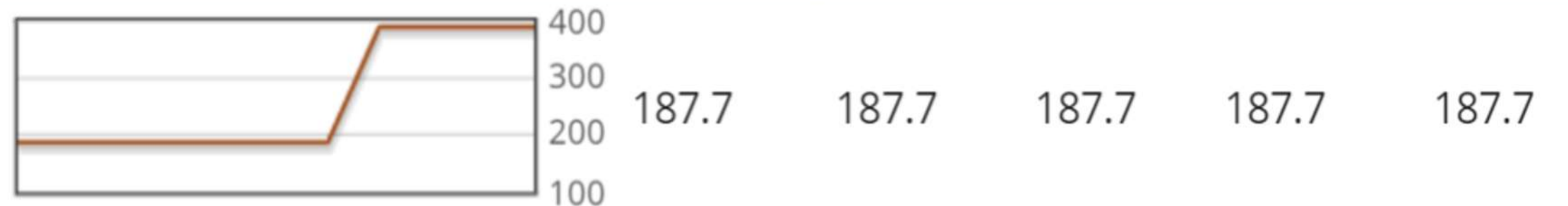
Iron (mcg/dL)



HDL Cholesterol - Total (mg/dL)



Vitamin B12 (Cynocobalamin) (pg/mL)



70Kgs



70Kgs



Fat%

25%

20%

Fat Kgs/
Muscles

17.5 ↑

14 ↑

RMR

1504

1579

HOW FAT

AND

MUSCLE

INFLUENCE

YOUR RMR

70Kgs



70Kgs



Fat%

15% ↑

12% ↑

Fat Kgs/
Muscles

10.5 ↑

8.4 ↑

RMR

1655

1700

HOW FAT

AND

MUSCLE

INFLUENCE

YOUR RMR

BODY COMPOSITION ASSESSMENT METHODS:

Laboratory methods include:

- double-energy X-ray absorptiometry (DXA, previously DEXA)
- densitometry (underwater weighing-UWW)
- magnetic resonance imaging (MRI)
- neutron activation analysis and potassium-40 (K) analyses (TBK).

Field methods include:

- ultrasound
- anthropometry
- skinfold thickness (SF)
- and bioelectric impedance (BIA)