

2020 0603 HL+RHP vs HyperMax MB+I+S+H+C+OS 40yoM

Marker	2020 0407	2020 0603 HL + RHP		2020 0605 HtperMax Elliptical			Reference Range
	0930AM	12:10PM Pre	14:20PM After	10:10AM Pre	10:35AM After	11:05AM +30 min	
DNA Viruses – Plasma	ND	ND	ND	ND	ND	ND	Not Detected
DNA Parasites – Plasma	ND	ND	ND	ND	ND	ND	Not Detected
DNA Fungi – Plasma	ND	ND	ND	ND	ND	ND	Not Detected
DNA Bacteria – Plasma	7O	ND	5O	7O	ND	6O	Not Detected
WBC	NA	3194L	4597	3316L	4689	3837L	4000 - 11000 Cells/uL
Lymphocyte, Absolute	NA	1360	1266	1204	1761	1329	600 - 5500 Cells/uL
Lymphocyte, Percent	NA	43	15.2H	36	38	35	10 - 45 %
CD3, Absolute (T cells)	NA	954	883	870	1177	914	606 - 3187 /uL
CD3, Percent (T cells)	NA	69.3	70.8	71.7	67.1	70.0	61.0 - 80.0 %
CD4, Absolute (T helper cells)	NA	501	482	429	534	443	365 - 2087 /uL
CD4, Percent (T helper cells)	NA	36.9L	38.1	35.6L	30.3L	33.3L	37.0 - 52.0 %
CD8, Absolute (T suppressor cells)	NA	332	317	326	483	373	154 - 1264 /uL
CD8, Percent (T suppressor cells)	NA	24.4	25.0	27.1	27.4	28.1	15.0 - 32.0 %
CD4/CD8 Ratio	NA	1.5	1.5	1.3	1.1	1.2	1.0 - 3.4 Ratio
CD16/56, Absolute (NK cells)	NA	252	187	202	391	219	26 - 497 /uL
CD16/56, Percent (NK cells)	NA	18.1H	15.2H	16.5H	22.4H	17.0H	3.0 - 12.0 %
CD19, Absolute (B cells)	NA	141	156	128	156	136	89 - 747 /uL
CD19, Percent (B cells)	NA	10.1	12.6	10.5	8.9L	10.6	9.0 - 19.0 %
Erythrocyte Sedimentation Rate	25H	9	<3	NA	8	10	<=15 mm/hr
WBC	2.05L	3.6L	5.4	3.8 L	5.3	4.1	4.0 - 11.0 k/mm3
RBC	4.30L	4.84	4.39	4.37	4.58	4.33	4.30 - 6.00 m/mm3
Hemoglobin	12.3L	14.8	12.7L	12.8 L	13.7	12.6L	13.0 - 18.0 g/dL
Hematocrit	36.7L	46.1	40.8H	40.4	44.4	40.3	40.0 - 53.0 %
MCV	85.3	95.2	92.9	92.4	96.9	93.1	78.0 - 100.0 fL
MCH	28.6	30.6	28.9	29.3	29.9	29.1	27.0 - 34.0 pg
MCHC	33.5	32.1	31.1	31.7	30.9L	31.3	31.0 - 37.0 g/dL
Platelet Count	215.0	307	295	308	388	294	130 - 450 k/mm3
RDW(sd)	50.8H	57.3H	52.8H	55.7H	60.2H	56.6 H	38.0 - 49.0 fL
RDW(cv)	16.5H	16.5H	15.7H	16.8H	17.3H	17.0 H	11.0 - 15.0 %
MPV	11.1	11.0	10.5	10.1	10.3	10.2	7.5 - 14.0 fL

Segmented Neutrophils	51.7	44.1	63.7	51.3	50.0	52.9	%
Lymphocytes	34.6	43.3	25.7	36.8	38.5	34.3	%
Monocytes	6.3	8.7	8.0	8.5	8.8	9.6	%
Eosinophils	3.4	1.7	1.3	2.1	1.5	1.5	%
Basophils	2.0H	1.1	0.6	0.8	0.6	0.7	%
Absolute Neutrophil	1.06L	1.58L	3.42	1.94	2.67	2.14	1.60 - 9.30 k/uL
Absolute Lymphocyte	0.71L	1.55	1.38	1.39	2.05	1.39	0.60 - 5.50 k/uL
Absolute Monocyte	0.13L	0.31	0.43	0.32	0.47	0.39	0.10 - 1.60 k/uL
Absolute Eosinophil	0.07	0.06	0.07	0.08	0.08	0.06	0.00 - 0.70 k/uL
Absolute Basophil	0.04	0.04	0.03	0.03	0.03	0.03	0.00 - 0.20 k/uL
Immature Granulocytes	2.0	1.1	0.7	0.5	0.6	1.0	%
Abs Imm Granulocytes	0.04	0.04	0.04	0.02	0.03	0.040	0.00 - 0.10 k/uL
NRBC RE, Nucleated RBC Percent	<0.01	0.0	0.0	0.0	0.0	0.00	0.0 - 1.0 %
Glucose	107H	95	97	113H	125H	112H	65 - 99 mg/dL
Urea Nitrogen (BUN)	10	17	19	17	18	18	8 - 25 mg/dL
Creatinine	0.75	0.90	0.85	0.95	1.08	0.85	0.60 - 1.50 mg/dL
GFR Estimated	>90	106	108	99	85	108	>=60mL/min/1.73m2
BUN/Creatinine Ratio	13	18.9	22.4	17.9	16.7	21.2	10.0 - 28.0
Uric Acid		2.5L	2.3L	2.8L	2.9L	3.0L	3.5 - 8.0 mg/dL
Sodium	138	143	145	140	141	138	134 - 147 mmol/L
Potassium	4.3	4.5	4.0	7.4CH	4.7	4.5	3.6 - 5.3 mmol/L
Chloride	100	105	106	103	103	103	95 - 108 mmol/L
Carbon Dioxide (CO2)	22	23	19	18L	19	23	19 - 31 mmol/L
Anion Gap	NA	15	19H	19H	19H	12	4 - 18
Osmolality, Calculated	NA	293	296H	292	291	285	275-295mOsm/kg
Protein, Total	6.5	7.1	6.45	6.9	7.5	6.8	6.0 - 8.0 g/dL
Albumin	4.2	4.9	4.5	4.6	4.9	4.5	3.6 - 5.1 g/dL
Globulin	4.2	2.2	2.0	2.3	2.6	2.3	1.9 - 3.7 g/dL
Albumin/Globulin Ratio	NA	2.2	2.2	2.0	1.9	1.9	1.0 - 2.5
Cholesterol	228	215H	194	192	205H	181	<=199 mg/dL
Triglyceride	366	454H	228H	258H	289H	238H	<=149 mg/dL
Calcium	9.4	9.8	8.6L	6.5CL	9.6	9.2	8.7 - 10.4 mg/dL
Phosphorus (Inorganic)	3.4	3.6	3.8	4.0	4.2	3.5	2.4 - 4.8 mg/dL
Alkaline Phosphatase	63	69	65	54	69	62	40 - 140 IU/L
GGT	NA	40	39	25	45	41	5 - 80 IU/L
Alanine Aminotransferase	12	30	28	27	25	23	5 - 60 IU/L

Aspartate Aminotransferase	20	34	29	47	25	20	10 - 50 IU/L
Lactate Dehydrogenase	144	246H	215	438H	223	201	112 - 245 IU/L
Bilirubin, Total	0.4	0.2	0.2	0.2	0.2	0.3	0.2 - 1.3 mg/dL
Cholesterol/HDL Ratio	6.2H	5.9H	5.4H	4.8	5.0H	4.9	<=4.9
HDL Cholesterol	37	37L	36L	40	41	37L	>=40 mg/dL
Non-HDL Cholesterol	191	178H	158H	152H	164H	144H	<=129 mg/dL
LDL Cholesterol, Calculated	118	NA	112H	100H	106H	96	<=99 mg/dL
VLDL Cholesterol	NA	NA	46H	52H	58H	48H	<=29 mg/dL
Estradiol	22.1L	NA	NA	10.5 L	23.4L	18.6L	25.8~60.7 pg/mL
FSH	23.9H	NA	NA	26.0 H	27.3H	24.7H	1.5~12.4 mIU/mL
DHEA-S	148.4	NA	NA	122.4	132.2	143.5	88.9~427.0 µg/dL
LH	11.2H	NA	NA	10.6 H	10.6H	8.5	1.7~8.6 mIU/mL
SHBG	43.5	NA	NA	44.1	47.3	43.6	16.5~55.9 nmol/L
Cortisol	10.7	NA	NA	15.7	14.8	12.1	6.2-19.4 µg/dL
Testosterone, Total	381.6	NA	NA	617.3	737.5	605.9	200.5~1437.8 ng/dL
Free Testosterone	6.54	NA	NA	10.7	12.23	10.78	4.09~37.37 ng/dL
Progesterone	0.175H	NA	NA	0.067	0.070	0.058	≤0.149 ng/mL
Parathyroid Hormone	49	NA	NA	75 H	158H	58	15~65 pg/mL
Estriol	<18.0	NA	NA	<18.0	<18.0	<18.0	≤200.8 pg/mL
Estrone	18.6	NA	NA	25.5	32.5	27.9	10.2~49.9 pg/mL
Prolactin	10.05	NA	NA	11.35	21.52 H	13.59	4.04~15.20 ng/mL
Dihydrotestosterone	22.8	NA	NA	51.2	61.1	50.7	14.8~101.8 ng/dL
Pregnenolone	2.03	NA	NA	1.65	1.09	2.01	0.38~3.50 ng/mL
Epinephrine	NA	NA	NA	83	81	96H	<95 pg/mL
Norepinephrine	NA	NA	NA	469	1194H	487	217-1109 pg/mL
Dopamine	NA	NA	NA	17	64H	18	<20 pg/mL
Total (E+N_D)	NA	NA	NA	569	1339H	601	242-1125 pg/mL
d-ROMs https://www.hedsrl.it/eng/oxidative-stress/what-is-d-roms-test/ Unit of measure: U. Carr 1 U. Carr = 0.08 mg H ₂ O ₂ /dL	NA	NA	NA	299	285	50	250-300 Optimal 300-320 BL 321-340 Low 341-400 Med 401-500 High > 500 Very high
PAT https://www.hedsrl.it/eng/oxidative-stress/what-is-the-pat-test/ Unit of measure: U. Cor	NA	NA	NA	2226	1466	1228	<2800 Very high 2200~2800 Nor 2200~2000 BL 2000~1800 SI def

1 U.Cor = 1.4 µMol/L of ascorbic acid							< 1800 Deficient
OBRI https://www.hedsrl.it/eng/obri/ Oxidative Balance Risk Index The cardiovascular risk index	NA	NA	NA	1.2	1.7	0.3	0.8-1.2 Normal 1.3-1.7 Borderline 1.8-2.2 High >2.2 Very High
OSI Redox https://www.hedsrl.it/eng/osi/ Oxidative Stress Index Summary value of oxid stress	NA	NA	NA	30	84	163	<40 Normal 41-65 Borderline 66-120 High >121 Very High

Subject background:

- 40 year old male with history of colon cancer and undergoing chemotherapy for 3+ years
- Immune system weak, WBCs 50% of normal, had neuropathy, hairloss, muscle fatigue and weakness

Exercise Protocol

- On 2020 0407 – fasted, rested
 - First blood draw at 09:30am, fasted, no exercise, at rest
 - Performed 15 min of Elliptical exercise while breathing through mask and connected to O2 bag
 - Second blood draw at 11:00, after exercise, called After
 - Third blood draw at 11:34, 30 minutes after exercise, called +30 min
- On 2020 0603 HL + RHP
 - First blood draw at 12:10PM, before Hemealumen (HL) and RHP
 - Performed HL (UVBI) + RHP (blood ozone dialysis)
 - Second blood draw at 14:20
- On 2020 0605 Elliptical Exercise
 - First blood draw at 10:10, before exercise, called Pre
 - Performed 15 min of Elliptical exercise while breathing through mask and connected to O2 bag
 - Second blood draw at 10:35, after exercise, called After
 - Third blood draw at 11:05, 30 minutes after exercise, called +30 min

Results:

- If you compare blood draw on 4/07/20 (before Hypermax O2) vs 6/5/20
 - This individual had done zero HyperMax sessions prior to this data and notice organisms were found in his blood!

- HyperMax acutely eliminates organisms in plasma. They reappear later because he has lesions in his colon
- After chronic training, Hypermax O2 significantly increased WBCs, RBCs, hemoglobin, hematocrit, neutrophils, lymphocytes, FSH, SHBG, cortisol, testosterone, free testosterone, PTH, estrone, prolactin, DHT
- No negative effects of Hypermax on liver or kidney function markers, indicating this is safe
- Kidney function appears to have improved
- If you compare blood draw before exercise with Hypermax O2 vs after exercise on 6/5/20
 - Hypermax O2 significantly increased WBCs, lymphocytes, CD3, CD4, CD8, NK cells, CD19, RBCs, platelets, estradiol, FSH, DHEAS, SHBG, Testosterone, Free Testosterone, PTH, estrone, prolactin, DHT, epinephrine, norepi, dopamine, Total
- No negative effects of Hypermax on liver or kidney function markers, indicating this is safe
- He has noticed significant improvements
- Reviewing this data with respect to:
 - Immunity Boosting – data shows improvements in immune parameters
 - Disease and Virus fighting/preventative – direct evidence – shows acute elimination of plasma organisms detected
 - Lung Health – no evidence, cannot measure adequately using Massimo
 - See <https://www.cosmed.com/en/products/cardio-pulmonary-exercise-test/quark-rmr>
 - <https://www.cosmed.com/en/products/pulmonary-function/q-box>
 - Youthfulness qualities – subjective evidence based on subject responses
 - Could be improved if we had questionnaire
 - <https://link.springer.com/article/10.1023/A:1009524612420>
 - <https://www.tandfonline.com/doi/abs/10.1080/15298868.2015.1133452?src=recsys&journalCode=psai20>
 - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7397859/>
 - Weight Loss – no evidence
 - We have tools to measure
 - This needs to be considered as a 3-6 month project
 - Reduction of Depression and Brain Fog – subjective evidence based on subject responses
 - Could be improved if we had questionnaire
 - Go here <https://www.mdcalc.com/> type in 'depression'
 - Joint Pain Relief – has no joint issues, no evidence
 - Could be improved if we had questionnaire
 - Go here <https://www.mdcalc.com/> type in 'joint pain'
 - Cardiovascular Health – subjective evidence based on subject responses
 - Could be improved if we had EEG or other physiological data
 - Better overall Fitness – subjective evidence based on subject responses
 - Cannot measure adequately using Massimo
 - See <https://www.cosmed.com/en/products/stress-testing-ecg>
 - <https://www.cosmed.com/en/products/ergometers/cosmed-treadmills>
 - <https://www.cosmed.com/en/products/ergometers/cosmed-bikes>