

OA/UNE Human Performance Lab

Why test your VO₂Max?

VO₂ max (also **maximal oxygen uptake** or **aerobic capacity**) is the maximum capacity of an individual's body to transport and utilize oxygen during exercise. VO₂ max is often expressed as a relative rate in millilitres of oxygen per kilogram of bodyweight per minute (ml/kg/min). It is a marker of a individual's cardiovascular fitness, maximal aerobic power and hence endurance performance potential. It is genetically predetermined, decreases with age and changes minimally with training in a moderately conditioned athlete.

Detailed analysis of the data obtained during a VO₂ max test can provide valuable information about metabolic substrate utilization (carbohydrates vs. fats) during aerobic exercise. This data can help an athlete target training zones to develop different metabolic pathways and understand their performance limitations.

Typical values are listed below.

MAXIMAL OXYGEN UPTAKE NORMS FOR MEN (ml/kg/min)

	18-25 years old	26-35 years old	36-45 years old	46-55 years old	56-65 years old	65+ years old
excellent	>60	>56	>51	>45	>41	>37
good	52-60	49-56	43-51	39-45	36-41	33-37
above average	47-51	43-48	39-42	35-38	32-35	29-32
average	42-46	40-42	35-38	32-35	30-31	26-28
below average	37-41	35-39	31-34	29-31	26-29	22-25
poor	30-36	30-34	26-30	25-28	22-25	20-21
very poor	<30	<30	<26	<25	<22	<20



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MAXIMAL OXYGEN UPTAKE NORMS FOR WOMEN (ml/kg/min)

	18-25 years old	26-35 years old	36-45 years old	46-55 years old	56-65 years old	65+ years old
excellent	56	52	45	40	37	32
good	47-56	45-52	38-45	34-40	32-37	28-32
above average	42-46	39-44	34-37	31-33	28-31	25-27
average	38-41	35-38	31-33	28-30	25-27	22-24
below average	33-37	31-34	27-30	25-27	22-24	19-22
poor	28-32	26-30	22-26	20-24	18-21	17-18
very poor	<28	<26	<22	<20	<18	<17