

Mayo Clinic Minute

Human endurance — will there be a 2-hour marathon?

Video	Audio
Vivien Williams	Is it possible for someone to run a marathon in less than two hours?
Vivien Williams	Dr. Michael Joyner has been studying human performance since medical school. He says in the 70s and 80s ...
Michael Joyner, M.D. Anesthesiology Mayo Clinic	"... some ideas about the limits of human performance began to emerge, and three main factors were identified. Something called 'maximal oxygen uptake,' which is the equivalent of how big the engine the athlete has. The second thing was something called the 'lactate threshold,' ..."
Vivien Williams	... which is how much of the athlete's engine capacity can be used and for how long.
Michael Joyner, M.D.	"Then something called 'running efficiency' or 'running economy.'"
Vivien Williams	What if one person had all three attributes?
Michael Joyner, M.D.	"It turns out you could kind of make an equation about how these interact, and I estimated somebody would break two hours for the marathon."
Vivien Williams	So far, the record is 2:01:39. Dr. Joyner says if, during a race, all conditions are right ...
Michael Joyner, M.D.	"... early 2020s or 2030s somebody will do it, but it could happen suddenly because that's how these things go."
	For the Mayo Clinic News Network, I'm Vivien Williams.