

There is no maximum 'speed' that is at the limit of human tolerance. Theoretically if we had enough energy someone (in a suitably designed vehicle) could be taken up to speeds close to the speed of light. As an example, astronauts in the International Space Station are orbiting at speeds of 27,700km/h (17,200miles/h) but suffer no harm as they are only accelerating at 1g.

What does limit in reality a human's top speed is acceleration: we can reach very high top speeds, but we have to take time in getting there in order to avoid injury and possible death from the g-forces resulting from acceleration and inertia. If we try to accelerate too quickly the inertia from the various parts of our bodies causes large amounts of force to be exerted on things like organs, tendons and bones, which can of course be potentially fatal. This is a well documented field, and the average maximum survivable g-force is about 16g (157m/s) sustained for 1 minute. However this limit depends on the individual, whether the acceleration is applied to one's entire body or just individual parts and the time in which the acceleration is endured over. John Stapp, a US Air Force surgeon survived 46g exerted over 1 second, though suffered quite serious injuries during the process.

Of course for practical reasons there must be some maximum speed at which one can travel on earth, but this is determined by the materials and techniques used to engineer vehicles and the like. The fastest plane currently is the X-15 with a top speed of 7,258km/h. This is only due to the constraints imposed by air resistance, there is no "top speed" in space as there are no resistive forces imposed by air and other materials.

Hope this answers your question!