

How Fasting Impacts Your Ability to Focus | Dr. Andrew Huberman

Your ability to focus and in fact your ability of neurons to encode specific information in your environment That is to represent what's out there in the world is actually related to your blood glucose level Now here I'm setting aside the discussion of ketosis and and ketogenic diets for the moment But there's a beautiful study that was published in neuron not long ago that showed that the tuning that is the precision with which neurons in the brain will represent things in our environment is actually much greater when there is sufficient glucose in the brain translated into English This means that when we are fasted or when our blood glucose is very low we aren't able to perceive and think about things as clearly Now there's a twist to this However many people who practice intermittent fasting and I should say I practice a sort of pseudo intermittent fasting I generally eat my meals between the hours of 11 a.m. and 8 p.m. Although sometimes there's some wiggle around that Occasionally I have an early breakfast I'm not super rigid about it But I know there are a number of people who are doing longer fast or they're eating in a six hour window We did an entire episode about fasting You can again find that Huberman lab dot com will likely have Sachin Panda who's an expert in intermittent fasting on the podcast Intermittent fasting has a lot of different potential benefits for some people It's a convenient way to restrict their calories for other people It's a convenient way to avoid eating That is it's easier to not eat than to eat a small portion So they opt for intermittent fasting and so on and so forth But one of the things that you hear very often is that some people like being fasted because they like the clarity of mind that it provides Here's the situation neurons unless you're in a ketogenic diet really thrive on glucose They love glucose And as I mentioned before your ability to think and perceive things is actually enhanced by having sufficient glucose in your bloodstream So why would it be that some people experience a heightened state of mental clarity when they are fasted I've certainly experienced that before Well I should say that provided you're well hydrated enough and you have enough electrolytes in your system What tends to happen is that when you ingest food there's a shift in your nervous system towards so called parasympathetic mode That is the more relaxed you probably heard it as rest and digest Although it does other things the more relaxed mode that can indeed make us very sleepy If we have too many

carbohydrates it actually can make us quite sleepy However if we have any food if we have enough of it that is if our gut is full it diverts blood to our gut and we become sleepy and we can't focus as well So a lot of people really like fasting in the state of being fasted for focus and concentration because they don't have as much of that parasympathetic activation They're just not as sleepy And in fact under those conditions half as much caffeine will give you just as much lift as twice as much caffeine will give you on a full belly of pasta And that's just the way that caffeine interacts with blood glucose So what I'd like you to imagine is if you had a measure of focus from 0 to 10 these are arbitrary units 10 being maximally focused and zero being not focused at all Imagine a U shaped function right Where if you're very fasted you're going to have a high degree of focus and concentration But then if you ingest some food and your belly is full your focus and concentration is reduced But having enough blood glucose and maybe even elevated blood glucose will increase cognitive function So there are two ends of the spectrum On one end of the spectrum blood glucose is relatively low and you're fasted and you can think and behave in a very concentrated way and on the other end of the spectrum you have a lot of blood glucose or I should say sufficient blood glucose you never want your blood glucose to be too high And that allows your neurons to encode and perceive and basically allow you to think really clearly So you sort of have to pick your condition What do you want for your bouts of focus and concentration I actually do both So what I do is as I mentioned before I eat my meal sometime around 11 am my first meal typically unless I'm very hungry when I wake up And so I will do my workout And one bout of focused work I was thinking of this as my hard work early in the day and I do that fasted I'll be consuming water with electrolytes maybe element or other electrolytes maybe some caffeine as well in the form of Yoruba mate or coffee That's my first focus bout of 90 minutes or less That is essentially done fasted and then I'll eat and then I do notice after I eat I actually have a diminished capacity to focus But then again in the afternoon I will do another 90 minute bout of focus and I'll talk about some of the tools I use to make sure that that bout of focus is optimal for getting the most amount of focused work done whether or not it's mental work or physical work Although I tend to do my physical work early in the day And my mental work both early and late in the day So to make this very simple or as simple as I can for you being fasted is great for focus and concentration provided you're not thinking about food the entire time and being fed is terrific for focus and concentration actually can improve

neuronal function provided that you didn't eat too much food So one way to manage this is if you're going to have a lunch to make sure that you don't stuff yourself at lunch that you're not overeating and to not get quite so full that you put your nervous system into this parasympathetic mode and make it hard to focus in the afternoon I know a lot of people experience a dip or even a crash in energy in the afternoon that make it really hard to focus For that reason I'll just remind people of a tool I've talked about many times before which is based on the biology of adenosine and caffeine et cetera which is to delay your first caffeine intake to 90 to 100 and 20 minutes after waking up I know that can be painful for certain people I violate that rule when I'm working out very early in the morning I'll drink my caffeine before my workout which often occurs within you know 30 to 60 minutes of waking But in general unless I'm working out very early I will ingest my caffeine 90 to 100 and 20 minutes after I wake up So again I want to emphasize that if you hear somebody out there say being fasted is optimal for focus and concentration Well that is true in one context and perhaps ideal for a certain part of the day And other people will say no you know neurons run on glucose you need glucose in your bloodstream in order to get those neurons to be tuned that is to respond with electrical activity in the optimal way when you're reading something or when you're trying to perform exercise Well that's also true And of course you can incorporate both I in fact as I just described incorporate both fasted states and fed states in order to optimize my concentration and focus