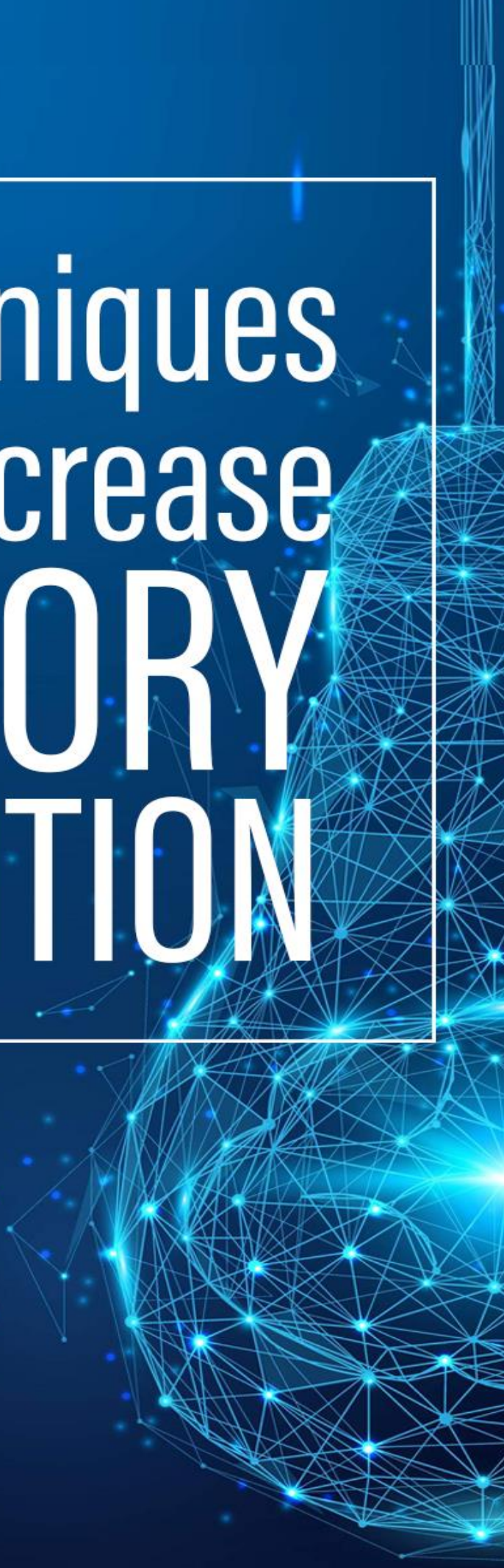
5 Techniques To Increase MEMORY RETENTION



When it comes to upgrading our brain power, too many of us think in terms of wholesale improvement. We want to increase our IQ or our attention and generally we seek to 'level up' as though we were a Pokemon or a Dragon Ball Z character.

"It… it's over 9,000!"

With nootropics and brain training, it's certainly possible to add a couple of IQ points for what that's worth. And perhaps with enough brain training, we might be able to slightly increase our attention.

But that's not the only way to increase brain power and it's probably not the most practical.

Instead, I invite you to think of your brain in terms of its skill set. Skills include specific knowledge, techniques and abilities that can enhance our ability to use our brains practically.

A skill might be the ability to think in another language, it might be ambidexterity, it might be speed reading, it might be visualization or it might be memory techniques.

In these scenarios, you are not ‘smarter’ as such but you have the option to utilize skills that will help you be more productive and more creative nonetheless.

Developing a perfect memory is something that anyone can work towards and this has a ton of practical benefits in real-life situations. Read on to discover some of the best methods you can use to increase your ability to retain information…

Levelling Up Your Memory With Brain Training

If you’re intent on ‘levelling up’ your memory, then you have the option to do that through a number of techniques.

One option is to use some form of brain training. And here there is one strategy that stands out above the rest…

‘Dual N-Back’ training is an exercise that involves watching sequences of letters or numbers and then identifying when there is a repetition. The ‘N’ here represents how many steps back you are looking and of course it becomes harder the more information you need to retain.

The ‘dual’ aspect means you are actually watching for repetitions in *two* separate streams of stimuli.

This is the only form of structured brain training that has been repeatedly supported by the research as a means to increase not only working memory but also fluid intelligence and attention (1, 2).

But here's where you need to start being a little discerning. The usefulness of improving your working memory is questionable and the amount of work you'd need to do to see results is significant.

Working memory is the type of memory we use while carrying numbers during mental arithmetic and it's how we remember phone numbers briefly while looking for a pen. The span of working memory is believed to be 7 +/- 2 meaning it can go up to 9 and as low as 5.

There are very few scenarios where increasing working memory by a measly two digits would be helpful and rather the focus should be on converted working and short term memories to long term.

Dual N-Back is useful in other ways (for training attention for instance) and can help you to better juggle information and focus on the data that will eventually be transferred to longer-term storage in the hippocampus.

Working memory can therefore be a useful skill to develop alongside others, and will help to support memory retrieval. But beyond a certain point dual n-back will deliver diminishing returns.

Using Nootropics

What *can* help is to use nootropics. One of the most popular nootropics for enhancing memory specifically is acetylcholine by far.

This is one of the key excitatory neurotransmitters and has been shown in countless studies to aid the formation of long term memories, as is the case for nicotine and some other substances (3).

Finally, any nootropics that increase neuroplasticity via BDNF or other factors may also improve long term memory formation and long-term potentiation. These include the likes of lion's mane mushroom, and magnesium threonate.

The best "nootropic" of all for strengthening brain function though? That is sleep by far, which can help you to store more memories AND to upgrade your focus.

Focus and Attention

Useful to consider is the strong link between attention and memory generally. Of course, you need to be attentive to stimuli for it to be encoded as memory and thus any nootropic that increases dopamine or other catecholamine neurotransmitters (serotonin, histamine, epinephrine, norepinephrine) could have this effect. The most exciting example of this is perhaps seen in examples of ‘flash bulb memories’.

These are incredibly vivid recollections we have for shocking events and often we can remember very specific details of our surroundings and circumstances when we got married, when we got divorced or when we first saw the 9/11 attacks on the news.

This could partly be due to increased rehearsal of these significant memories, but it is also likely due to the heightened attention we would have given those moments due to increases in dopamine and other chemicals.

Training your attention and focus then is a great way to improve your memory and your recall. To do *this*, you could try practicing meditation, or using the aforementioned dual n-back. Finding ways to make the memory more interesting and engaging can also help.

Memory Palace

But perhaps the best way to improve your long term memory storage is to improve your ability to *use* the memory you already have.

Memory masters are individuals who compete to memorize the orders of packs of cards and perform other memory feats. To accomplish this, they use a range of techniques and mnemonics to improve their categorization and retrieval of information.

Again though, you need to think about context. You probably have no real need to memorize a pack of cards and more likely you'll benefit from learning more dynamic information, facts and skills.

One way you can do this is with the 'memory palace' technique. This utilizes our strong visual memories in order to remember lists of objects, important facts and more. Popularly depicted in the BBC series *Sherlock*, the technique involves picturing a real or imagined location and then visualizing certain cues in specific locations around that visualized location.

This is related to the "method of loci" that has been used for hundreds of years by indigenous tribes and early man. This

technique was used to help store large amounts of information within a culture before the use of the printing press or internet.

This method is similar to using rooms or places within a building, but instead focusses on a particular route. Sages would memorize routes around their local area and would then visualize these routes and place memories at specific landmarks along the way.

This technique is extremely effective because it takes advantage of the brain's propensity for learning navigation – something which has far more survival value from a historical and evolutionary perspective as compared with dry facts!

Chances are you can memorize the route from your home to work, so why not picture that route and place images in your mind's eye along the way that will help you to remember things? This technique can be used to memorize and recite entire passages of text!

Spaced Learning

For revising a subject, one very useful tool is 'spaced learning' (5). This method involves learning for three blocks of 15 minutes, with two ten minute breaks in between that

feature ‘distractor activities’. This enforces the ideas and then requires you to retrieve them again just as they would be about to leave the short term memory.

The reason this appears to work so well is that it allows you to “hack” the brain’s learning mechanisms so that you will be rehearsing different facts and ideas after what the brain will perceive as a period of absence.

This has the effect of rehearsing the same subject lots of times, rather than just rehearsing it *once* but for *longer*. The result is more rewiring of the brain, more neurochemical activity, and faster long-term potentiation (a fancy word meaning formation of new connections within the brain).

The very best way to strengthen your memory though? Use all these different methods together. Learn to improve your focus and your working memory so that you become better at attending to the information you’re trying to learn.

Use nootropics to enhance your brain health, and then use memory palaces and spaced learning to help cement different types of information.

The key lesson to take from this though? Stop trying to ‘improve memory’ across the board, stop trying to ‘boost IQ’ and don’t worry about attention. Instead, think about what

you’re trying to achieve and what cognitive skills would benefit *you*. Then focus on the specific training, nutrition and nootropics to help you get there.

1. http://www.tandfonline.com/doi/abs/10.1080/09658211003702171

2. http://link.springer.com/article/10.3758/s13423-014-0699-x

3. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2659740/

4. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2349094/

5. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3782739/