A FREE RESEARCH GUIDE FROM DR. JAMIE KNIGHT

What I wish everyone knew about dementia, smell, and the brain.

The earliest signal your body has been sending — and what to do with it.

DR. JAMIE KNIGHT, PHD

Lifespan psychologist · Olfactory health researcher
Founder, Olfactory Health

If you're reading this, you already know.

If you've watched someone you love slowly disappear to dementia, you'll understand the fear that follows. The question you probably don't say out loud:

"Will this happen to me?"

I'm a researcher in olfactory neuroscience. I work with families who are asking exactly this question. And I want to tell you something that almost nobody — including your doctor — will tell you up front:

Before dementia hits, there's a warning signal your body sends to you for years. Most people are missing it.

It's a change in your sense of smell.

This guide is the short version of what I wish every person who worries they are at risk of dementia knows. It will take you about ten minutes to read. By the end you'll understand what the research actually says, what the early warning signs look like, what you can do today, and what to ask your doctor next time you see them.

Why your nose knows first.

Your sense of smell is not like your other senses. Sight, sound, touch, taste — they all route through a switching station in the brain called the thalamus, which decides what to do with the input. **Smell is the only sense that bypasses this step entirely.**

The olfactory bulb sits at the base of your brain and connects directly into two structures: the **hippocampus** (where memories get converted to long-term storage) and the **amygdala** (the emotional center). One synapse to threat and feeling. Two synapses to memory and context. No other sense has this anatomy.

What this means in practice: **when those memory and emotion structures begin to deteriorate, the smell system is one of the very first things to show it.** Often by five to ten years. In some studies, by ten to twenty.

> *Smell loss is not a curiosity. It is one of the earliest detectable markers of Alzheimer's disease known to medicine.*

Five signs your olfactory health may be changing.

Smell loss is rarely dramatic. Most of the time it's quiet — small enough that you explain it away as a bad cold, allergies, or aging. Here's what to actually pay attention to. Notice if any of these are familiar.

01 Reduced acuity.

Smells you used to notice clearly now take more effort, or feel further away. Coffee doesn't smell quite right. Perfume has lost its allure. Food is still flavourful but less specific.

02 Difficulty identifying.

You can smell something — but you can't put a name on it. The classic smell-test research uses this exact gap: ability to distinguish one smell from another, vs. ability to label it correctly.

03 Phantom smells.

Smelling something that isn't there — most often smoke, burning, or chemical-like smells. Called phantosmia, this is more common than people think and warrants attention.

Two more — and how to read them.

04 Reduced flavour perception.

Most of what we call 'taste' is actually smell — the aromas released as you chew that travel up the back of your mouth into the nasal cavity. If food has gone flatter, that's often olfactory, not taste.

05 Smell change after illness.

Recent illness — particularly viral — can change smell in ways that don't fully recover. If your sense of smell didn't come back to its old self after a flu or COVID, that's worth noting.

Important: change does not equal crisis. A single sign isn't a diagnosis — and this guide is not a diagnostic tool. But change is also not nothing. If two or three of these resonate, the right response is curiosity and conversation, not panic. Page seven tells you exactly what you can do.

What smell training is — and what it actually does.

The most studied intervention in this space is something called **olfactory training**. It is exactly what it sounds like: systematic, deliberate exposure to a small set of scents, twice a day, for several months. Almost no equipment needed. Costs very little. The evidence for it is solid and dates back to 1984.

The classic protocol uses four scents — rose, eucalyptus, lemon, and clove — sniffed deliberately for ten to fifteen seconds each, twice a day, for at least twelve weeks. (Sixteen to twenty-four weeks for measurable cognitive effects.)

Multiple studies, including a meta-analysis by Sorokowska et al. (2017), have found that this kind of training is associated with increases in **grey matter volume** in memory-related brain regions, improvements in **verbal fluency**, and support for neuroplasticity across age groups. Preliminary evidence is striking: a 2023 UC Irvine pilot (Woo et al., n=20) found a **226% improvement on a specific cognitive subtest** in older adults who did olfactory enrichment nightly for six months versus a control group. The sample was small, but the direction is consistent with the broader olfactory training literature.

> *This is one of the few brain-health interventions with strong evidence, almost no downside, and almost no cost.*

Why olfactory testing isn't routine yet.

Here is the gap that drives my work: a ten-minute smell test in a primary-care visit could flag people for early cognitive screening up to a decade before any standard memory test would. The science supports it. The tools exist (the UPSIT, the Sniffin' Sticks, and now home-based digital protocols like the AROMHA Brain Health Test). And yet olfactory screening is still not a standard part of any major adult-care guideline in North America.

If someone in your family has dementia, this gap is the difference between starting prevention work in your fifties versus your seventies. Between catching a trajectory you can still influence and being told the news once it's too late to act.

The fix isn't more research. The research is already there. The fix is patient-side advocacy — people like you walking into appointments asking for the test. That's how screening becomes routine.

Three things you can do, starting today.

01 Do an at-home smell self-assessment.

Pick four common kitchen scents — coffee, cinnamon, vanilla, lemon. Close your eyes, smell each, and try to identify them by name. Notice not just whether you can identify them, but how confident you feel. This isn't diagnostic, but it gives you a rough baseline you can revisit in three months.

02 Start a basic olfactory training protocol.

If smell change is something you've noticed, start the four-scent protocol described on the previous page (our workbook is coming soon — email me for details or to get on the beta-testing list). Twice a day. Ten to fifteen seconds per scent. Set a recurring reminder. Give it twelve weeks before you decide if it's working.

03 Talk to your doctor — and tell them what to ask.

At your next physical, raise olfactory testing specifically. Ask whether your doctor uses any standardized smell test (the UPSIT and Sniffin' Sticks are the most common). If not, ask why — and ask if you can be referred for one. This is how you change what becomes the standard of care.

About the writer.

Dr. Jamie Knight is a Canadian Institute of Health Research-funded postdoctoral fellow at the University of Victoria, and the founder of **Olfactory Health** — Canada's first not-for-profit dedicated to olfactory science, patient support, and healthcare-system advocacy.

Her current CIHR-funded research is a partnership with First Nations community partners on a co-developed olfactory training program for early dementia detection. Her published work on olfaction and cognitive aging has appeared in the *Journal of Gerontology* and other peer-reviewed outlets.

She writes **The Scent Letter** — a free newsletter about smell, brain health, memory, and what the science tells us about staying sharp as we age — from Victoria, BC.

Two ways to keep going.

Read more — The Scent Letter

I publish research, tools, and protocols for people who take their brain health seriously. One letter every season.

drjamieknight.com/the-scent-letter

Go deeper — Olfactory Health Assessment

If you'd like an in-person assessment of your olfactory function with evidence-based recommendations for your cognitive and sensory health, this is the next step.

olfactoryhealth.com

> *Thank you for being here, and for taking the question of your own brain health seriously enough to read to the end. The fact that you're paying attention is, by itself, the first protective factor.*

— Jamie