

Smell, smell everywhere ...

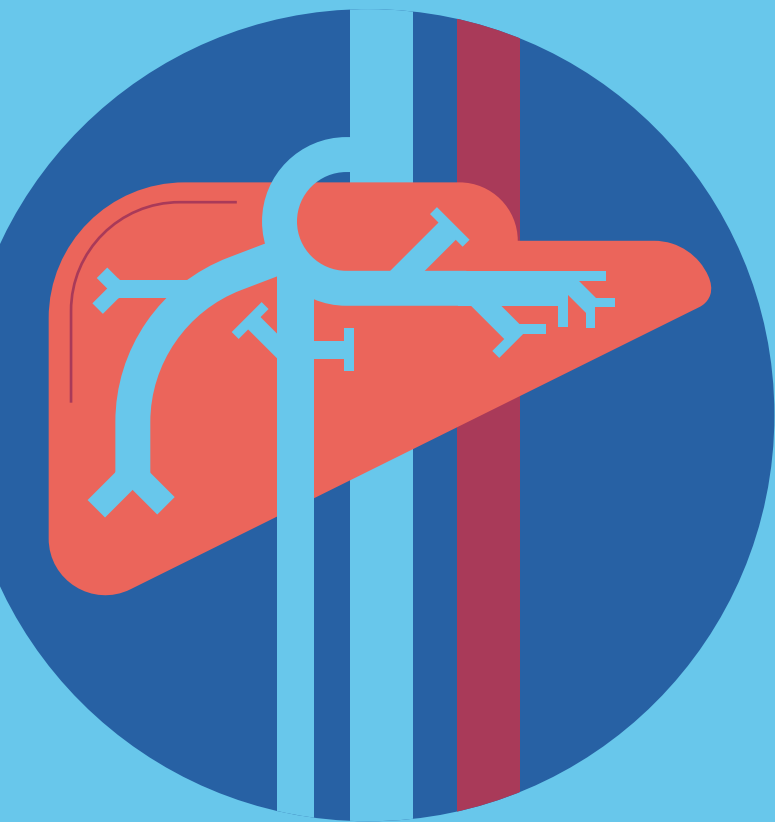
Smell receptors aren't ONLY in our noses. Scientists have found them all over the body — including in the tongue, gut and even the kidneys!

HOW?

WHY?

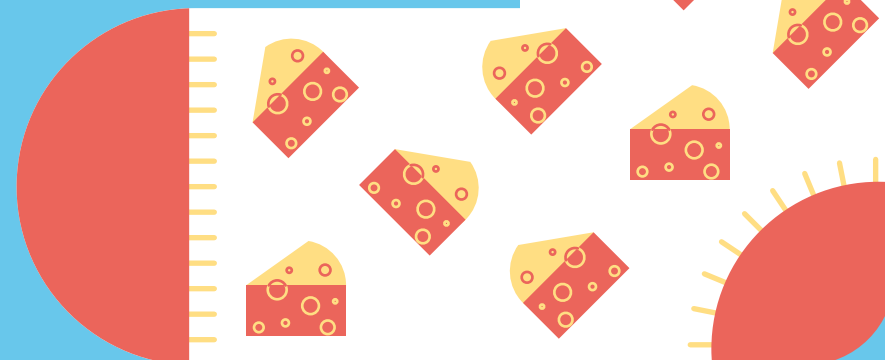
Our sense of smell detects chemicals that we care about. These can be things that we want — like chocolate cake — or things that we definitely do not want to even go near — like rotten food, fire, cabbage soup or the bathroom after your dad's been in it.

But guess what? Chemicals that we care about aren't only OUTSIDE us, but INSIDE us too.



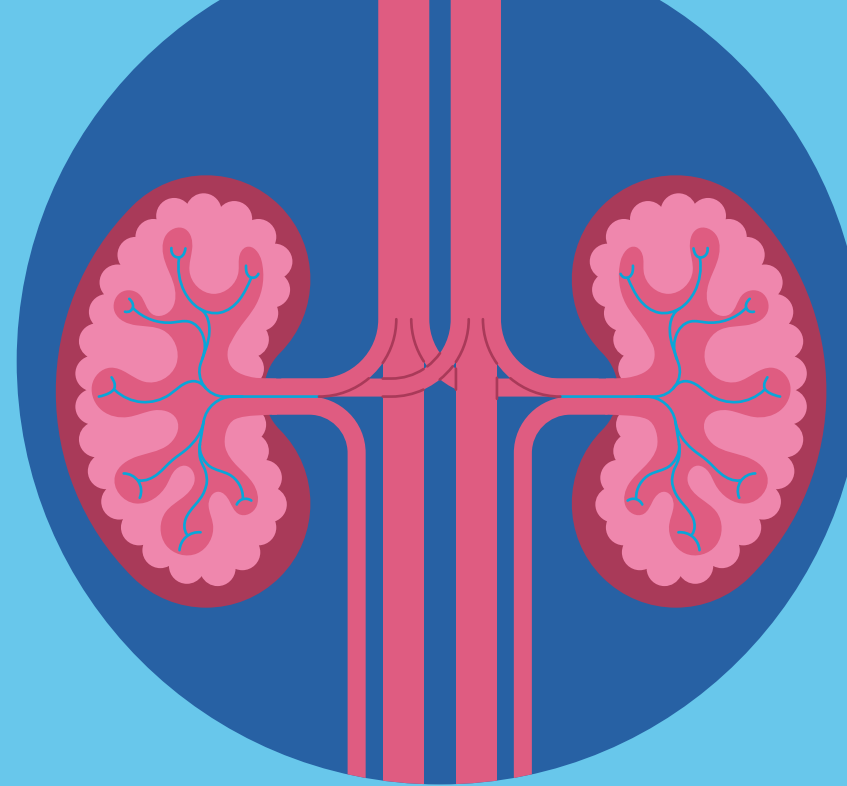
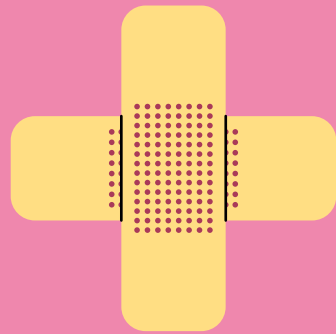
Liver

Some scientific studies have found that smell receptors can sniff out cells that have turned cancerous. They might help to stop liver cancer from spreading.



Skin

Smell receptors help wounds heal faster. (Scientists don't know how yet!)

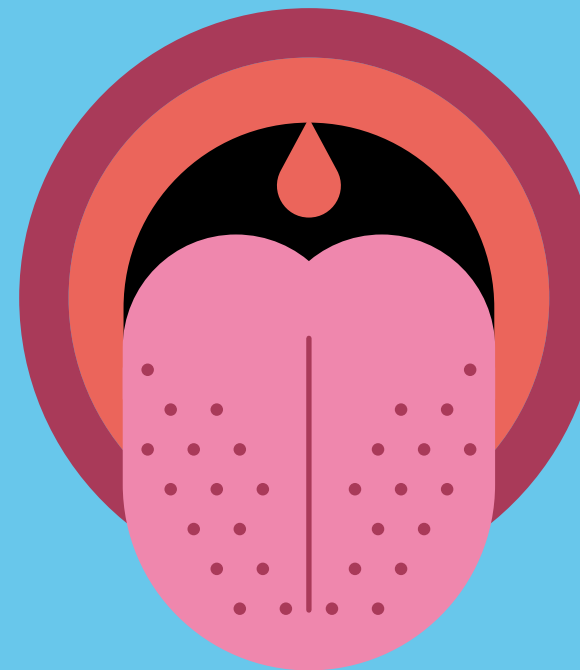


Kidneys

Your kidneys 'sniff' your wee using smell receptors just like ones in your nose. They do this to make sure that you're keeping enough good chemicals inside you — like glucose (sugar for energy). But also that you're peeing out the bad ones, or ones that you've got too much of.

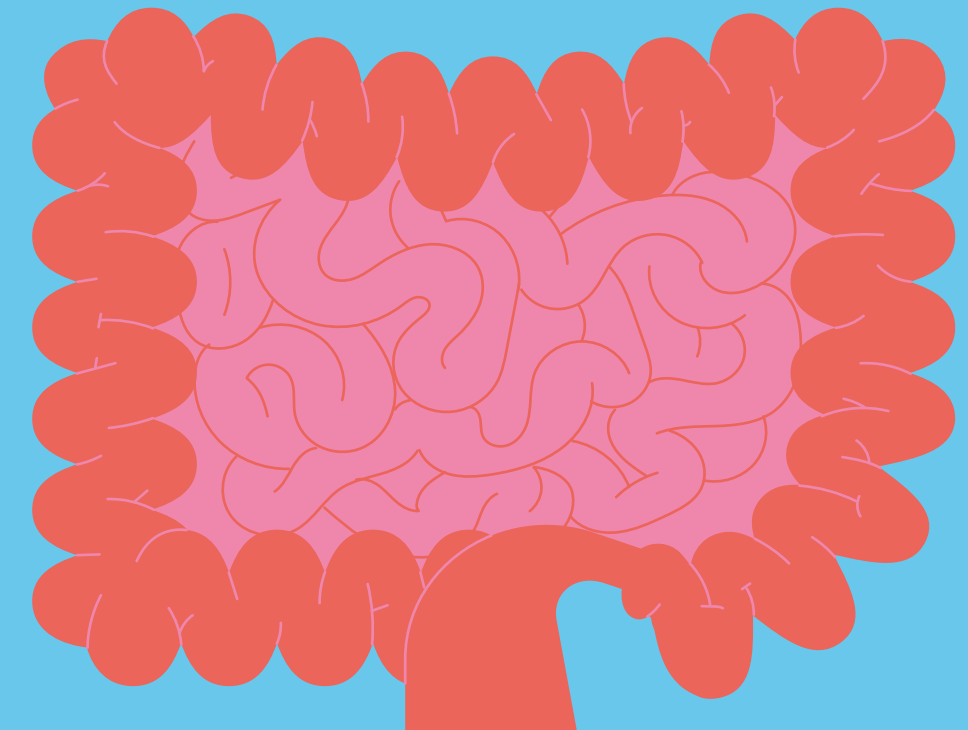
Gut

Smell receptors sniff the contents of your food to help with digestion.



Tongue

Yes, smell receptors have been found ON taste cells in the tongue. Your tongue 'sniffs' your food as well as tastes it!



When these smell receptors are triggered, you won't smell anything in the same way you do with your nose, but they're vital all the same.

Inner Sensing

Imagine if you had to remind your heart to beat, or your lungs to breathe! Thankfully, your brain takes care of this automatically. But to do this it needs your INNER SENSES. They tell your brain about vital stuff that's happening inside you.

sense number
23

Heartbeat sensing

Every time your heart squeezes (which it has to, to pump out blood), stretch sensors tell your brain. Some people are better than others at tuning in to these signals. They can count their heartbeats quite accurately without feeling for a pulse. You could try this: while sitting quietly, get a friend to press a thumb to your inner wrist and ask them to count your pulse for a minute. You try counting at the same time, and see how close you are.

sense number
24

Blood pressure sensing

Stretch sensors in blood vessels tell your brain about the push force — or pressure — of blood against their inner walls. This is your 'blood pressure sense'.

sense number
25

Lung stretch sensing

Stretch sensors in your lungs tell your brain when they're filling with air (and when you really need to stop breathing in, or they'll explode).

sense number
26

Oxygen sensing and Carbon dioxide sensing

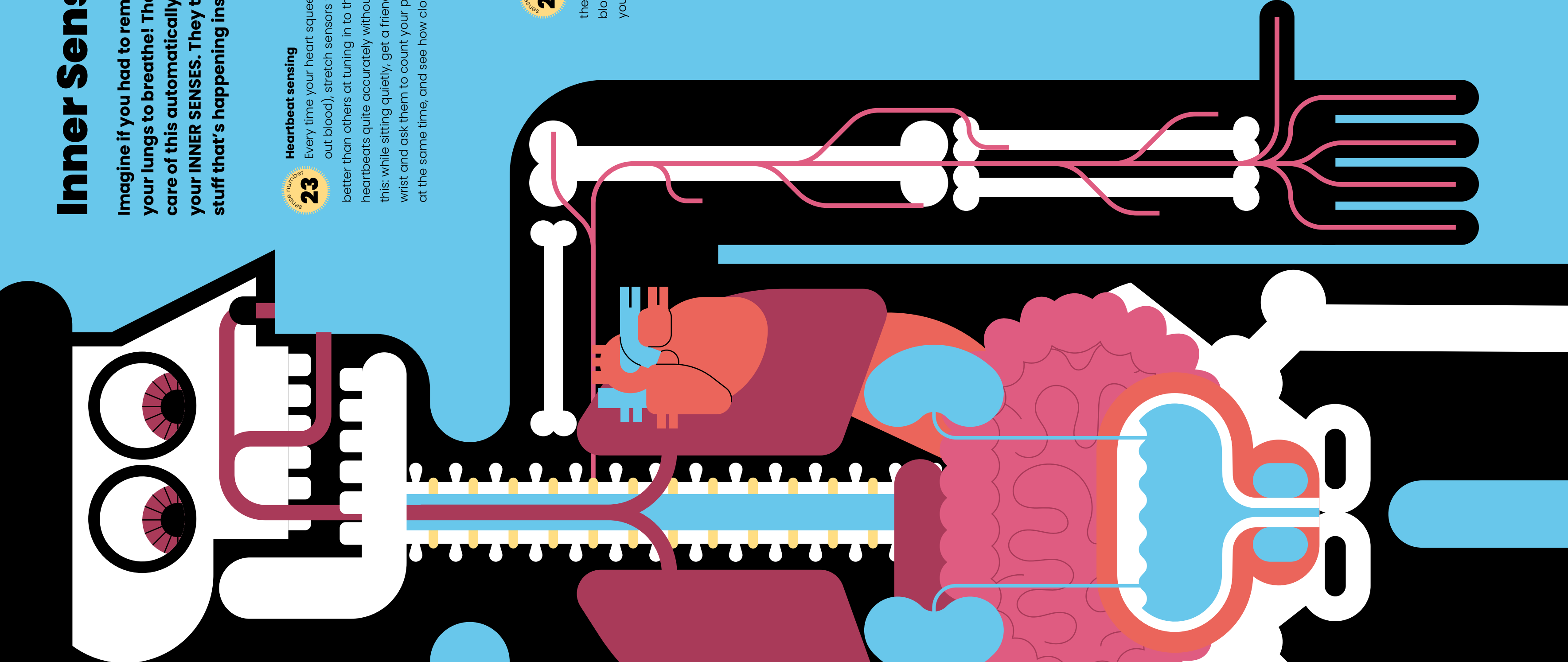
Two other types of sensor keep track of levels of the gases carbon dioxide and oxygen in your blood. Too much carbon dioxide is bad. Too little oxygen is also bad as your cells need oxygen to get their energy.

sense number
27

sense number
28

Spinal fluid sensing

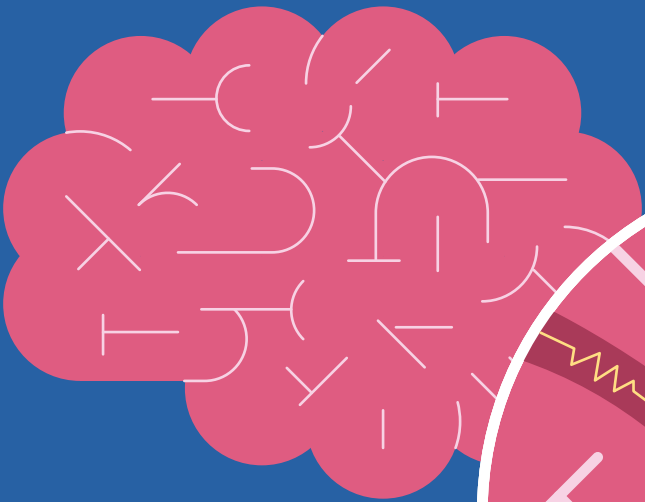
You also have sensors that feed back on your 'cerebrospinal' (SE-RE-BRO-SPINE-AL) fluid — the liquid that bathes your brain and spinal cord.



Sensing and Feeling

Our **INNER SENSES** are vital for something else: our feelings, or emotions. Here's what happens:

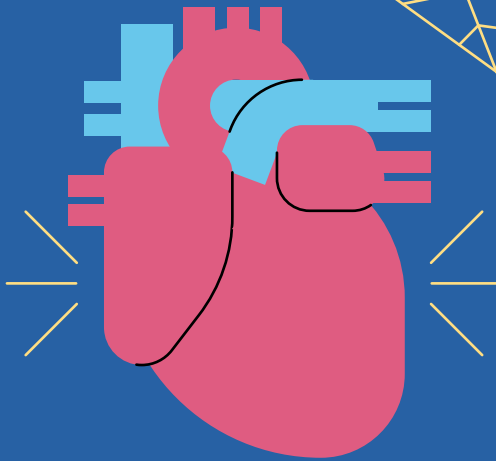
1 A spider zings down from the ceiling on a silk thread.



2 Your brain **REACTS** and signals **ALARM!**



3 This triggers your 'flight or fight' response: your heart beats faster and you breathe more quickly.



4 Your inner senses tell your brain that your heartbeat and breathing have increased and then ...



5 You feel afraid.