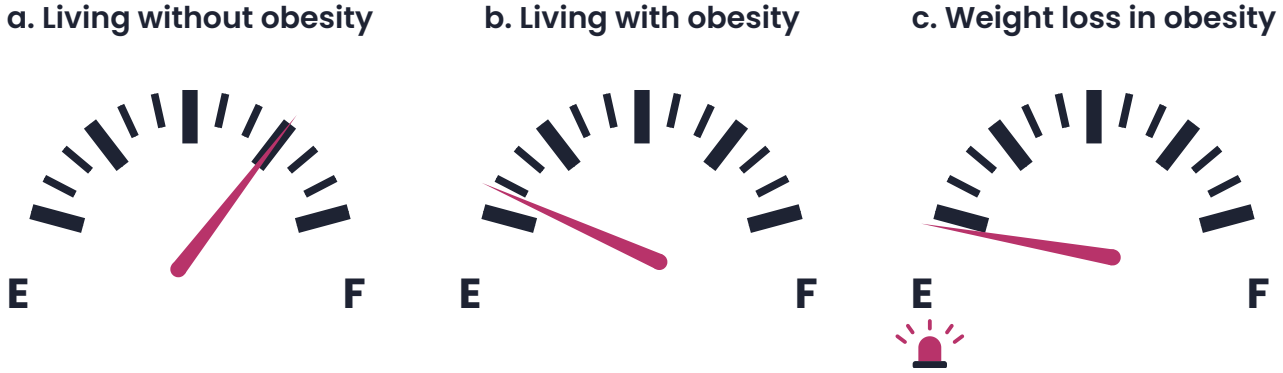
Obesity isn't a problem of excess weight. It's a brain convinced fuel is running out.



The brain perceives adequate energy reserves and doesn't activate a starvation response until stores become substantially depleted.

The brain interprets the same stored energy as less available, shifting the fuel gauge closer to "empty."

As weight is lost, the brain reaches its low-fuel threshold sooner and sounds the alarm: the biologically programmed starvation response.

Figure 1.2 from *Running on Empty*. The gauge reflects how the brain perceives energy availability, not the actual amount of body fat.

1 **Leptin is an anti-starvation signal**

Fat tissue makes leptin. The brain mostly ignores rising leptin, but notices when it falls. Losing weight lowers leptin, and the brain responds as if food has become scarce.

2 **Weight loss isn't the hard part**

Keeping it off is. Weight loss turns on the very starvation response obesity is already primed to defend against, even with plenty of stored energy.

3 **A workaround, not a replacement**

Long-acting GLP-1 medications reach the brain's fullness circuits that leptin normally reaches, telling the appetite centre fuel is available. People lose weight while feeling fuller.

4 **Managed, not cured**

We can't yet permanently reset the gauge. Treatment shifts it in your favour, which is why obesity is managed over time, like asthma or high blood pressure.

There is nothing wrong with you, and you did not fail your body.

For education only. Not a substitute for individualized medical advice.