

# Obesity: A Disease of the Brain?

It's time to stop shaming and blaming people for their weight and start treating obesity for the chronic, relapsing disease science says it is.



## Obesity is a chronic disease

characterized by the accumulation of excess body fat that can have a negative impact on our physical, mental or metabolic health, as well as our overall quality of life.

Science has made important advances in understanding what's happening in the body when it comes to weight gain, and who is susceptible to it.

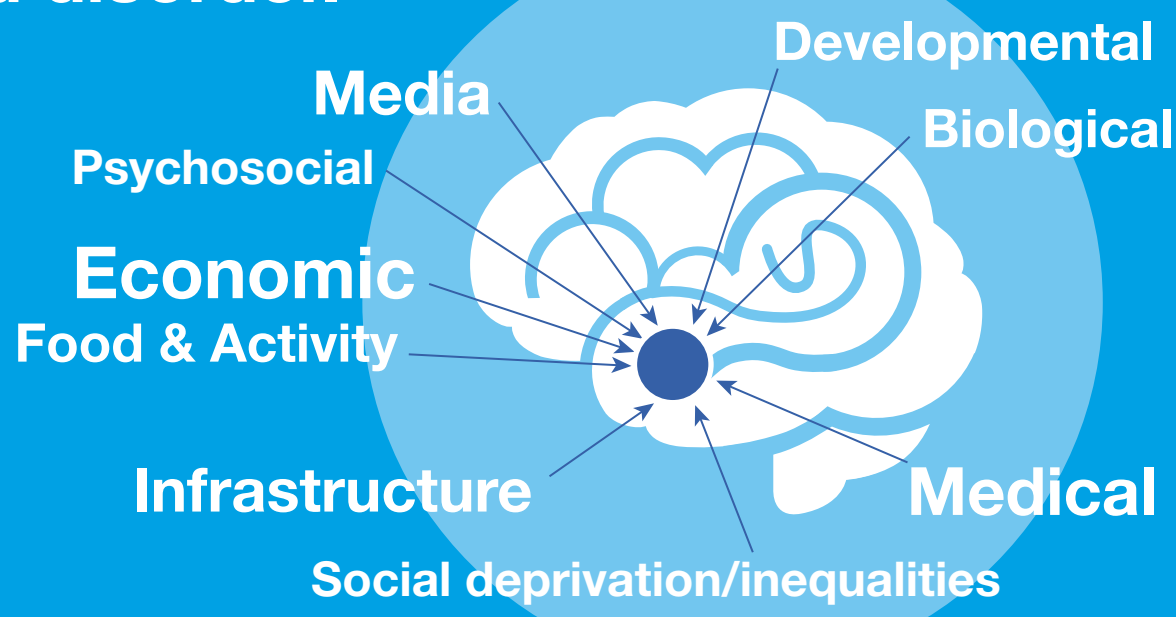
Weight has more to do with genetics and what we are exposed to in the womb than individual choices about exercise or food.

## Here's what research tells us about obesity:

### Obesity is a brain-related disorder.

The hypothalamus regulates energy intake and expenditure to maintain weight, but its normal function can be disrupted by biological and environmental factors.

Once disrupted, our feelings of hunger and fullness (satiety) can be affected.



### Obesity is highly genetic.

The more of these genes you have, the more probable it is that you will develop obesity by age 18. And, if you have a high number of these genes, your risk for developing severe obesity (defined as body mass index\*  $\geq 40$  kg/m<sup>2</sup>) is . . .

**15** times that of someone without the genes.

Genes dictate a lot of our physical attributes. For example, 85% of your height is genetic. When it comes to weight,

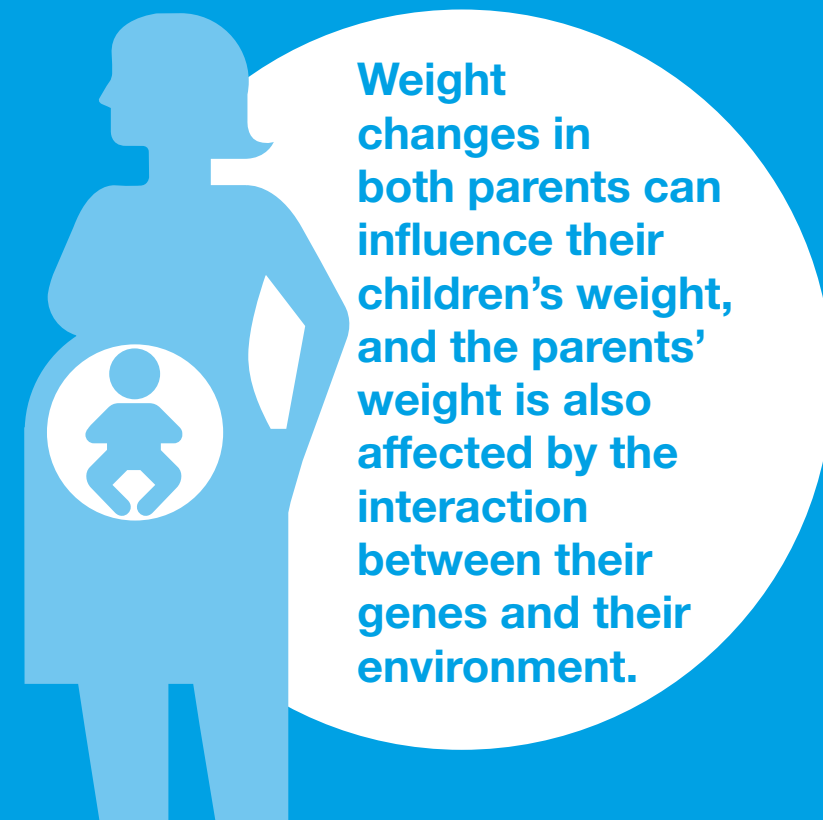
**70%-80% of our BMI is determined by genes.\***

Studies of identical twins raised apart found they had similar BMIs despite living in different environments.

### Our weight as adults can be predetermined before we are born.

Babies born to mothers who have obesity when they become pregnant (or who gain significant weight during it) are more likely to be born large for gestational age and are at greater risk for developing obesity.

Many factors influence pregnancy weight gain—maintaining healthy behaviours at any weight is important for mothers and babies alike.



### Our bodies defend against weight loss.

For most of human history, it was hard for people to get enough to eat, so we evolved to be genetically programmed against weight loss and in favour of weight regain. After significant weight loss, our hormones change to cause more hunger and less satiety (fullness), resulting in increased food intake.

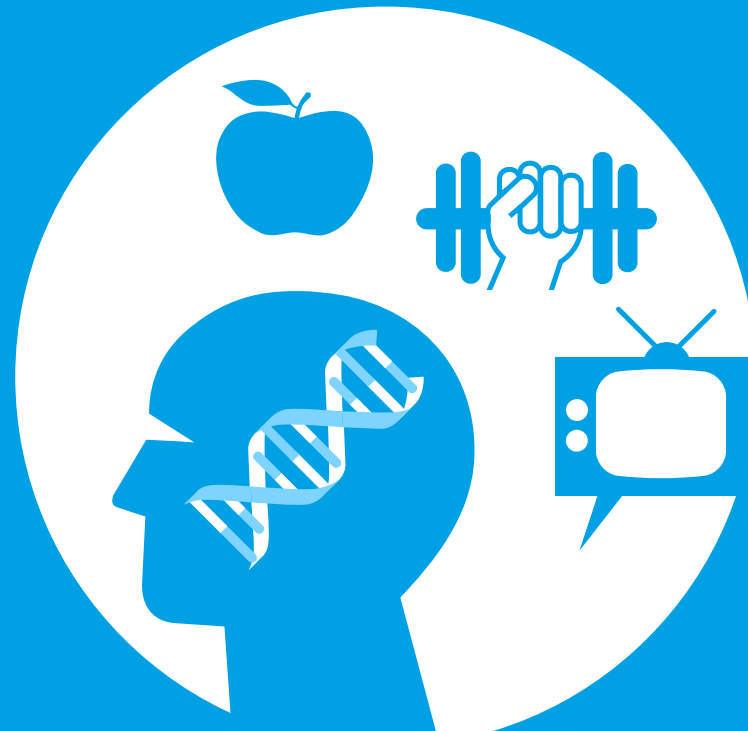
Our body also reacts by switching into an energy-saving mode, making it difficult to compensate for weight gain even with regular, vigorous exercise and reduced calories.

In most studies looking at dietary and exercise interventions, **any achieved weight loss disappears after 4 to 7 years.**

**80%** of people who lose 5% of their weight **regain it over 5 years.**

### Our genes also affect how we respond to simplistic diet and exercise approaches to weight management.

Everyone is unique, so how we respond to raised or lowered caloric consumption and expenditure varies from person to person. Research has even shown that our body's reaction to different diets and even television food advertising are influenced by our genes!



### What about the 20%-30% of our weight that is influenced by environmental factors?

Here's the good news: If you are genetically predisposed to have a larger body, the degree to which you gain weight can be managed by behavioural interventions, psychological support, medications and/or surgeries, and by addressing environmental influences where possible.



## As a society, we therefore must:



Recognise obesity as a chronic disease requiring lifelong medical treatment and support



Address the underlying biological and environmental factors leading to obesity



Work on prevention and treatment approaches simultaneously



Challenge and eliminate obesity stigma

When weight impacts your health, you deserve to be supported without judgement. Talk to your healthcare provider today.

\* BMI broadly categorizes a person as underweight, normal weight, overweight or with obesity, but is not a measure of health. Genetic influence varies between individuals and could be as low as 50%