Stgilesmedical

ONE minute medicine

# Medical cannabis – the future

We all know that cannabis is a plant people smoke to get high but do you know how the different compounds in cannabis (called cannabinoids) affect our bodies and that our body makes its own natural cannabinoids?

Billed as the latest wonder drug, one of those cannabinoids**, cannabidiol** is creating a stir in the pharmaceutical world. What are cannabinoids, how do they work and what can we use them for?

## There are two types of cannabinoid: endocannabinoids and phytocannabinoids

**Endocannabinoids** are naturally occurring compounds that exist in the body. These were only discovered in the 1990s and it was this development that engendered a wave of clinical trials to assess the efficacy of cannabinoids and as treatments for a plethora of diseases.

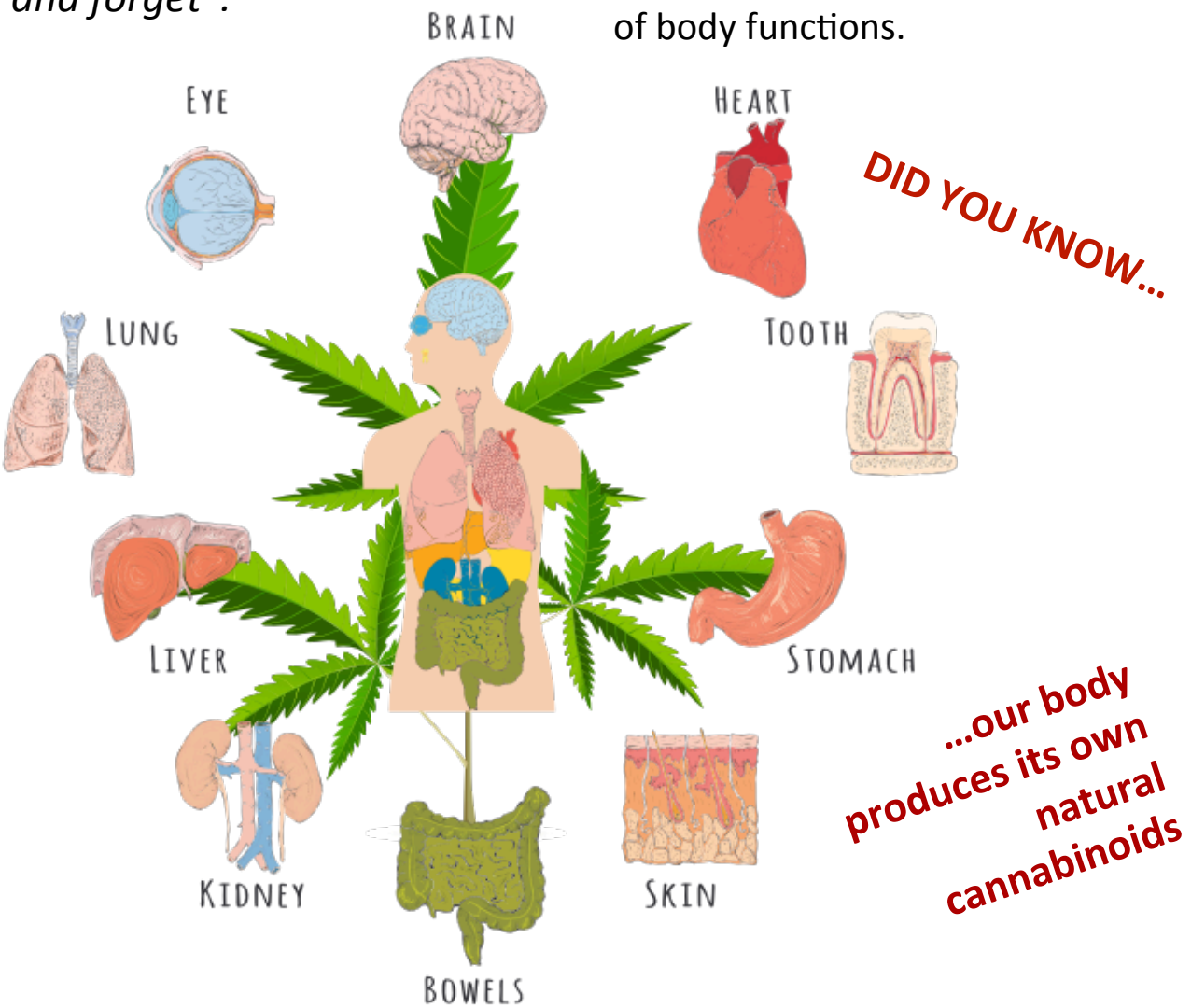
**Phytocannabinoids** are a unique group of naturally occurring compounds found in the cannabis plant. Before they were discovered and isolated in the 1960s, cannabis itself had already been used for medicinal purposes for millennia.

# The endocannabinoid system (ECS)

The ECS has yet to be fully understood but its effects on the body seem to be related to the maintenance of homeostasis in health and disease. These can be broadly summarised as:

*"relax, eat,*
*sleep, protect*
*and forget".*

Two endocannabinoid receptors have been discovered: CB1 and CB2. CB1 receptors are ubiquitous in the central and peripheral nervous system. They are most abundant in parts of the brain responsible for movement, memory, cognition, the perception of pain, emotion, appetite, reward and the regulation of body functions.




**DID YOU KNOW...**

**...our body produces its own natural cannabinoids**

Over 60 phytocannabinoids have been identified so far but the most researched are delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD). These compounds are ligands for the endogenous CB1 and CB2 receptors and have been purported to have myriad effects on the human body.

# Cannabinoid-based medicines approved for use across the world:


In the US several synthetic THC-related medicines have been approved for use to reduce nausea and vomiting for chemotherapy patients, as an appetite stimulant for AIDS patients, an appetite suppressor in obese patients and to reduce spasticity in multiple sclerosis patients (For example: Dronabinol, Unimed Pharmaceuticals; CT-3, Indevus Pharmaceuticals; Taranabant, Merck).

Derived directly from the cannabis plant, Sativex (GW Pharmaceuticals) has been approved for use in neuropathic pain and spasticity in patients with multiple sclerosis. It is made from both THC and CBD.

Also derived from cannabis is Epidiolex, made from pure cannabidiol. This is currently undergoing clinical trials for treatment of childhood epilepsy that has previously been untreatable. Phase 3 trials have shown reduced seizures in children taking Epidiolex compared with placebo (**www.gwpharm.com**).

***Tetrahydrocannabinol (THC) is the principal psychoactive component of cannabis*

Additional cannabinoids are being investigated for potential therapeutic effects for a spectrum of disorders such as Type II diabetes and brain tumours. It seems we have only scratched the surface of the potential of cannabinoids.

**www.stgmed.com**

Sophia Whitman MD