

Computer based implants

Questions will focus on:

- **Ethical**
- **Environmental**
- **Legal**

Computer based implants

You need to know:

- What sort of devices
- How they might be used
- Reasons for growth
- Pros and Cons
- **EEL issues** - this is more ethical and legal

Computer based implants

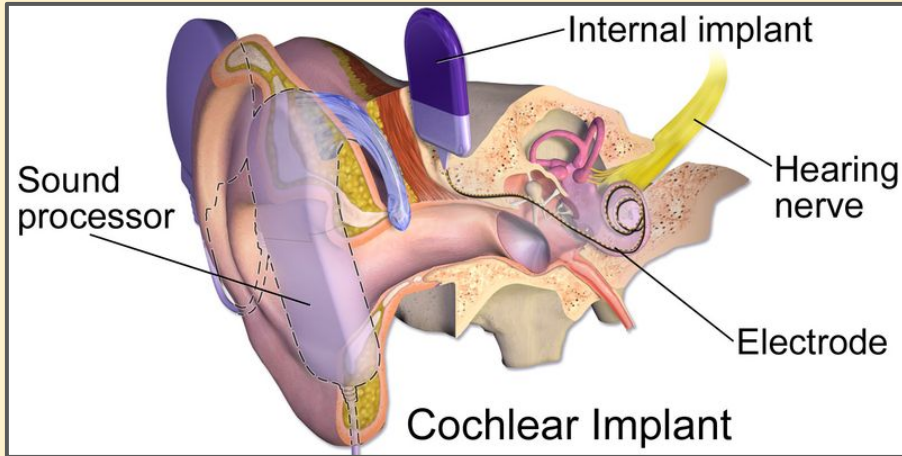
Computer based - not just “computers”

Include technology such as:

- cochlear implants
- heart implants
- diabetes monitoring implants
- under-skin RFID chips

All need to be implanted surgically in sterile conditions

Computer based implants



Cost: £22,919 for one ear; £37,904 for two (2019)

Computer based implants



Cost: £2940 (2018) - they last 180 days, so... £490 per month... Plus £500 insertion fee to the doctor.

“Continuous glucose monitoring or CGM uses an implanted device to automatically monitor the blood sugar levels, every few minutes, 24 hours a day. Finger prick tests provide a snap-shot of your blood glucose levels. Nobody enjoys finger prick tests done as many as 8-10 times a day.”

<https://londondiabetes.com/type-1/blood-sugar-monitoring/>

Computer based implants

A microchip implant is an identifying integrated circuit placed under the skin. The chip uses **passive Radio-Frequency Identification (RFID)**.



Computer based implants

- 1998: The first human to have a microchip implanted
- Now: Companies produce microchips that can be implanted into humans (cost: £40 for the chip pack - £135 if you want it installed by a doctor (2022 price))
- About the size of a grain of rice
- Can be used for ID and to store a range of personal data

“Store a range of encrypted personal data on an NFC implant chip, from bank account details & passwords to medical data or bitcoin wallet details. NFC chips offer a range personal data storage solutions which you can likely never lose!”

<https://www.bioteq.co.uk/index.php/implants>

Computer based implants

“A Polish-British startup claims to have created the world’s first microchip implant that can be inserted under the skin and used to make contactless payments at any card terminal.”

“To back up its claim of being “impossible to hack”, Walletmor says that its implant cannot be scanned or copied, and lacks a CVV number. Moreover, it does not transmit radio waves or have GPS, which would allow for location tracking.”

“The product uses **near-field communication** (NFC) technology to allow for short-range contactless payments.”

- 14 April 2021

<https://notesfrompoland.com/2021/04/14/worlds-first-payment-chip-implanted-under-skin-launched-by-polish-british-startup/>

Which laws
might apply to
this type of
device?

Computer based implants



And is this very far removed from using your fingerprint to buy your dinner?