

We hear about new medicines that are in the pipeline but sometimes it's hard to know what's realistically happening soon.

ROYAL
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Genetic technologies in healthcare

What to expect and when?

Established

- Genetic testing
- Disease tracking
- Medicines made using gene technologies (eg insulin)

Recently available

- Some gene therapies for rare disorders, such as sickle cell anaemia
- Genetic treatments for cancer, such as CAR T-cell therapy
- Rapid development of diagnostics for new infectious diseases

What's next? (2 – 10 years away)

- Personalised medicine
- More gene therapies, may include treatments for type II diabetes
- More cancer treatments
- 'Humanised' organ transplants from pigs to reduce long waitlists
- Rapid vaccine development for new infectious diseases
- Medicine in our food (eg gene-edited cows that produce human insulin in their milk)

On the horizon (over 10 years away)

- Personalised medicine more accessible
- Genetic treatment for complex conditions, such as Alzheimer's disease
- Personalised organ transplants – organs grown to be a genetic match for you

Maybe one day

- Germline (inheritable) editing to correct genes that could cause cancer and disorders
- Stem cell technologies, when paired with IVF, to help same-sex couples have biological children

