

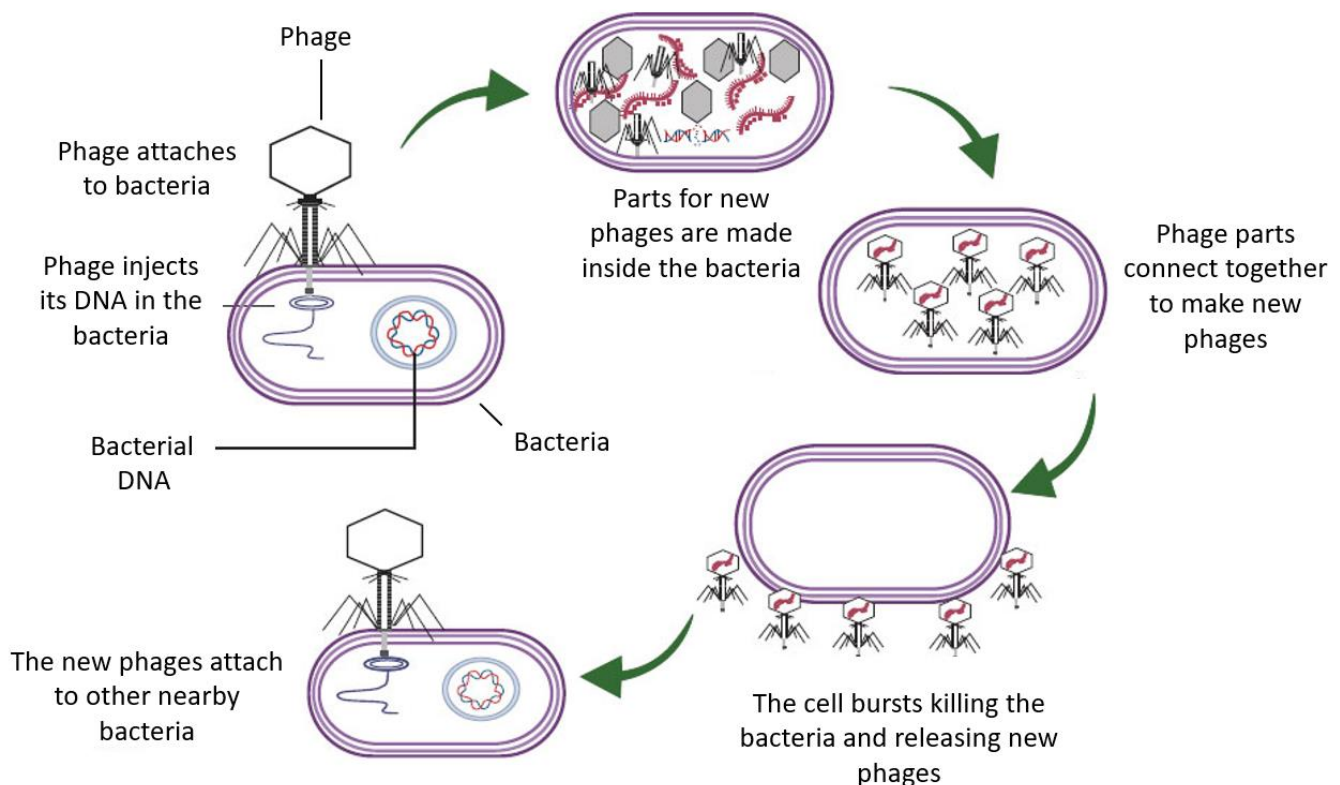
Bacteriophage (phage) treatment

What is bacteriophage or phage therapy?

- Bacteriophages, also known as 'phages' (pronounced 'fayj') are viruses with the ability to infect and kill bacteria.
- Phages were first used in humans as alternatives to antibiotics more than 100 years ago.
- They do not attack human cells and do not cause an infection in humans. In fact, there are countless phage particles in a normal healthy human.
- Unlike antibiotics, phages only target specific bacteria, so they won't kill the good bacteria already found in your body.
- Also known as "nature's antibiotics", phages are found everywhere in our environment including the soil and water.

How does phage therapy work?

- Once administered, phages travel through the body and specifically target the infection site where the bacteria are located.
- By injecting their genetic material (DNA), phages rapidly kill the bacteria by causing them to burst.
- The phages then replicate themselves, increasing their effect.



When is phage therapy used?

- When there is a bacterial infection where all standard treatments have been tried and failed, or only had a minimal effect, phage therapy may be considered.
- Your treating specialist together with the Phage Team will decide whether phage therapy is likely to be of benefit.
- Phage therapy is not currently approved in Australia, however, can be supplied on a case-by-case basis under the Special Access Scheme (SAS) which requires notification to be sent to Australia's Therapeutic Goods Administration (TGA).

How is my phage therapy decided?

- Therapy follows the Standardised Treatment and Monitoring Protocol (STAMP), through a clinical research study looking to standardise how patients are treated with phages and how data is collected, including monitoring for safety of phage therapy.
- In the lab, phage matching identifies a phage that kills your bacteria type.
- Your treating specialist together with the Phage Team (which may include international colleagues) work together to find the best phage for you.
- Once the phage is found, it is manufactured into a safe product for intravenous (injected into the vein), oral (swallowed), nebulised (inhaled), or topical (applied to the skin) use.

How is my phage therapy given to me?

- You will be admitted to hospital for some or all of your phage therapy.
- The duration of phage therapy is usually 14 days however it may be required for a shorter or longer period of time.
- Therapy is usually administered by an intravenous (IV) infusion over 30 minutes.

What are the possible side effects of phage therapy?

- Phage therapy is considered very safe and is very well tolerated.
- The process of phages killing bacteria can cause a brief inflammatory reaction after the initial doses of phage.
- This can occasionally cause symptoms such as:
 - fever
 - chills
 - headache
 - muscle aches
 - pain at the infection site (if given by injection).
- These reactions are brief and can be managed with simple pain relief medicines such as paracetamol.

What else do I need to know?

- You will be monitored closely during phage therapy.
- Regular assessments, including heart rate, blood pressure and temperature measurements and blood tests are used to check phage and bacteria levels, as well as any potential changes in organ function, blood cells, and immune response to the treatment.
- These assessments are usually done during your hospital stay.

For more information on phages

- Phage Australia: <https://www.phageaustralia.org/>

Contact information

- If you have any questions or concerns, contact your child's doctor or the PCH Pharmacy Department on:
 - Paediatric Medicines Information Service: 6456 0190 – select option 1.



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