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## alien combat

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Antibiotics have always been a solution to overcome bacterial infections in the past, but not today due to the emergence of antibiotic resistance. Common antibiotics for treatment purposes are no longer able to control bacterial infections. Discovery and development of new antibiotics is a slow and difficult process. In recent years, there has been renewed interest to utilise bacteriophages as an alternative to antibiotics. The ability of bacteriophages to kill bacteria was actually first discovered in 1920s but its potential was not explored due to the introduction of antibiotics in 1940s. Bacteriophages, are viruses that are naturally present in the environment. They use specific bacteria as a vehicle to reproduce. During their reproductive cycle, the bacteria are lysed and killed. New bacteriophages produced are able to attack the remaining specific bacteria. This

cycle repeats until the specific bacteria are eliminated. Researchers are working on a selection of bacteriophages with high lytic efficiency. As opposed to antibiotics, the elimination mechanism of bacteriophages is highly specific, targeting on a particular bacteria that is supposed to be eliminated only. Due to their natural self reproduction and self limiting characteristics, a single dose of application is required. Possibility of development of phage resistance is also relatively low in comparison to antibiotic resistance. Even if it happens, isolation of new bacteriophages from the environment could be done easily and rapidly. The advancement in science today allows more detailed study of phage biology which will provide a second chance to the bacteriophages to show its true potential in the era of emergence of antibiotic resistance.

