

How to Make Penicillin by Yourself



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How to Make Penicillin

You probably know this, but penicillin is the best known antibiotic in the world. It has a long history of use before the times of modern medicine and is still used in hospitals today. It was officially discovered in 1928 by Alexander Fleming in the UK.

Although it had been used for centuries before this by ancient Greeks, Egyptians and others, they could not identify or separate the compound which cured the disease. In the spring of 1942 the first patient to be treated for septicemia was treated with US made penicillin and this used up 50% of stock available at the time. Just a few years later near the end of the Second World War, the US had to produce 2.3 million doses in preparation for the D-Day landings.

If you were ever stranded in the wild far from civilization and need to make your own penicillin then the following methods can be used.

Disclaimer

The information in this article is provided “as is” and should not be mistaken for or be a substitute for medical advice. While Shane Jackson is a doctor, he is not your doctor, so consult your physician before trying any of the advice presented on this page. Always seek the help of a professional. Neither the author nor www.SurvivalSullivan.com or the company behind the website shall be held liable for any negative effects of you putting into practice the information in this article.

Steps

To make penicillin at home you are going to need equipment, ingredients and time. This is not a quick fix solution that you can make within hours of becoming concerned that you or a loved one have an infection.

You will need to start with a mold culture or starter source. The best way to begin is with old bread or citrus peel. This will be the fuel the mold will use to grow from and you will need to monitor the mold as it matures. Initially as the food becomes stale the surface will start to become grey and fuzzy. This means that the tendrils of the mold are beginning to spread but it is still too early to harvest. Once left for a few days, a more yellow-green fur will become apparent eventually turning a bright bluish green.

Congratulations, you have now produced penicillin from either *Penicillium chrysogenum* or *Penicillium nalgiovense*! This of course is not pure or pharmaceutical grade penicillin as you still have your stale food, mold and penicillin all together. In this state it is quite hard to ingest and you will have to consume the whole mix for it to have any effect.

For a purer and easier to eat mixture, it is a good idea to extract the penicillin and store it separately. Now that you have your starter amount, you will need two large flasks, both sterilized by heating in an oven for an hour at 315 degrees.

Break your starter mold and food fuel into small pieces and place inside a flask, then seal and incubate for a week at 70 degrees. Whilst you are waiting for the spores to grow you will need to go and find the following ingredients, alongside a scale that can measure milligrams. Your standard kitchen scale definitely won't do for this!

Penicillin Incubation Solution

Solution base: 500ml cold water

Solid ingredients:

44g Lactose monohydrate

25g Cornstarch

3g Sodium nitrate

0.25g Magnesium sulfate

0.5g Potassium monophosphate

2.75g Glucose monohydrate

0.044g Zinc sulfate

0.044g Manganese sulfate

Penicillin: A step-by-step guide

1. Pour 500ml of water into a sterile container which can be sealed with a top.
2. Add the solid ingredients as listed, preferably in powdered form so they dissolve faster.
3. Add a further 400ml of cold water to this solution once mixed.
4. Read the level on your flask and top up the fluid level to 1 liter.
5. It is very important that you now mix the solution properly. Check that the contents have dissolved before you stop stirring.
6. You will now need to check with some litmus paper that you have the right acidity, or pH. Dip the litmus paper into the solution and check it against the guide supplied with the litmus.
7. It will likely be too alkaline, ie. a pH greater than 7. Add drops of hydrochloric acid until the litmus paper shows a pH of 5.5 to 6.
8. Now add your mold to the solution, seal and leave for seven days.
9. **At the end of the incubation period you finally have penicillin!** This incubation period will separate the penicillin from the rest of the liquid and leave it floating on top.
10. At the end of the week, skim off the surface of the mixture using filter paper.
11. Place the penicillin you have just made into a dry container for storage and future use.

The water from your tap will be at a pH of 6.5 and 8.5 depending on the stone at groundwater level. Using bottled water is usually at more neutral pH of 7. Either way you will need to add hydrochloric acid in small amounts until it reaches a pH of 5.5 to 6. This is crucial as a solution that is too acidic or too alkaline could destroy the penicillin you have made so far.

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WARNING

Before you go running off into the sunset and the wild outdoors read the next section very carefully.

Making your own home grown antibiotics without proper training or equipment, and then self-diagnosing and treating without hospital grade investigations and equipment, leaves you with a very high risk of making a mistake or something going wrong.

The instructions you have just read are for emergency, last resort situations. Always choose the safest choice first, like going to a hospital or clinic with trained staff. If you are living without access to transport, communication or the emergency services then treating yourself may be only option. If a trained professional can treat you, then that will always be your best bet.

What have you actually grown?

Unless you have access to individual strains of bacteria, petri dishes and several hundred thousand dollars' worth of medical equipment, you will never know for sure. **By following the steps above you will have produced a good amount of the antibiotic penicillin but you will have also generated other organic compounds.**

The mold itself will have produced other chemicals to fight off bacteria that can be harmful to humans, especially in large amounts. If there has been a mistake in the sterilization process, other molds from your food source or even bacteria resistant to penicillin may have worked their way into your incubation.

Incubating with the solution described will rid the penicillin you harvest of some impurities but again there is no way of testing at home how pure it actually is. These impurities have the potential to harm you more than the penicillin is helping.

What does penicillin treat?

Penicillin is not a cure all! If you have become sick and had to be admitted to hospital, your blood would be taken and then cultured in a lab. Any bacteria found would then be placed in a petri dish with a selection of different antibiotics including penicillin itself. Different antibiotics work in different ways, from breaking down the cell wall to stopping cell reproduction. Penicillin stops bacteria from being able to make or repair their cell wall which means they can't stop water from flowing inside. This swells the bacteria, eventually bursting and killing them.

Unfortunately this method of killing bacteria makes penicillin a 'narrow-spectrum' antibiotic, meaning that it only affects certain types of bacteria, not all. 'Gram positive' bacteria are more likely to be affected as they lack an extra membrane around the cell wall that helps to hold the cell together.

Penicillinase?

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There is one final piece of the puzzle to consider when using penicillin in the modern world. After many years of use, it was discovered that a number of infections that used to be treated with penicillin were no longer being cured. In the lab scientists found the presence of Penicillinase. The -ase part of the word tells us this is a molecule which breaks down penicillin! In other words the lab had seen that bacteria had mutated to make a chemical which destroys and stops the effects of penicillin. In the modern world we use tonnes of antibiotics every day for everything from treating the sick to ridding livestock of disease.

Remember

None of this is a substitute for real medical advice of any actual situation you may be having in the future. Growing and using your own penicillin is an emergency, last resort procedure. If you are lucky, it could cure an infection or stop one spreading from a wound. If you are less lucky, it might slow the progress of the infection or have no effect at all.

It should be viewed as extra bit of safety which gives you time to seek proper medical advice. Don't forget there are plenty of infections that can seem like they're caused by bacteria but are actually a viral infection. This includes very serious, life-threatening infections like viral encephalitis and no antibiotic, no matter how strong, will ever treat them.