

THE NTU TEAM USES DURIAN HUSK TO MAKE BANDAGES FOR POSTOPERATIVE INTERVENTIONS, SINGAPORE NEWS AND TOP STORIES

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SINGAPORE – In the near future, protective gel dressings for a patient who has undergone surgery may consist of completely organic materials.

They are now made of synthetic materials such as polymethacrylate, better known as acrylic.

Most Singaporeans will no doubt be surprised by the base material for the new antibacterial gel dressings.

Researchers from Nanyang Technological University (NTU) have found a way to make them from durian peel – the part of the fruit that is usually thrown away.

The husk is about 60 percent of the weight of each durian.

The gel for these dressings was developed by a team led by Professor William Chen, Director of the NTU Food Science and Technology Program.

The team found a way to extract pulp from the husk and combine it with glycerin-

1; another by-product of the biodiesel and soap industries – to produce a soft gel that can be cut into bandages.

They then added some compounds from bread yeast that are deadly to bacteria to make the gel antibacterial.

The new bandage is similar to conventional hydrogel patches used for hydration as well as wound protection, and is most commonly used after surgery to reduce scarring.

NTU said conventional hydrogel patches often contain metallic components such as silver or copper ions, making them more expensive compared to what Professor Chen's team did.

"Using waste that is currently being dumped in large quantities – durian husk and glycerin – we could turn waste into a valuable biomedical resource that can increase rapid wound healing and reduce the likelihood of infection," he added.

NTU also stated that bandages made from gel can be biodegradable, and because they are organic in nature, they should have a smaller environmental footprint than conventional synthetic bandages.



Professor William Chen and graduate student Cui Xi with a gel they developed from durian husk. PHOTO: SINGAPORE NTU



Researchers are now in talks with industry partners to increase production. Professor Chen said that if all goes according to plan, the product could hit the market in about two years. The cost of the bandage is expected to be competitive with increased production.

In 2017, Singapore imported 14,300 tons of durian, which is about 10 million durians.

By the way, there is little chance that the new bandages have raised the stench – they have no smell.

Source link
