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LOCAL ANAESTHETIC MAY AFFECT DEVELOPMENT OF CHILDREN'S TEETH

A groundbreaking study published in *Cell Death Discovery* has found that the use of local anaesthetic may affect tooth cell growth and the development of children's teeth.

Using pig teeth and human young permanent tooth pulp cells, the research team, led by Dr Bing Hu, at Plymouth University Peninsula Schools of Medicine and Dentistry, with a team from China and Switzerland, discovered local anaesthetics commonly used in clinics can affect the proliferation of tooth cells. The longer the duration of exposure to high concentrations of local anaesthetic was most harmful because it interferes with the function of mitochondria, or the 'batteries' of the cell, and induce a cell death mechanism called 'autophagy'.

While the study has identified a potential harmful effect of local anaesthetic on developing teeth, the research team is keen to emphasise that further clinical studies are required before there is enough data to change clinical guidelines, and that parents should not be alarmed or withdraw their children from treatment if they need it.

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THEY WON'T LEAVE GUMS FEELING BLACK AND BLUE

New research has suggested that a treatment using wild blueberry extract can prevent the formation of the plaque which leads to gum disease, reducing the prevalence of the disease and the need for these antibiotics.

Publishing in the *Journal of Agricultural and Food Chemistry*, the team from Université Laval in Canada sought to see if blueberry polyphenols, which work against foodborne pathogens, could also help fight Fusobacterium nucleatum, one of the main species of bacteria associated with periodontitis.

In the lab, the researchers tested extracts from the wild lowbush blueberry, Vaccinium angustifolium Ait., against F. nucleatum. The polyphenol-rich extracts successfully inhibited the growth of F. nucleatum, as well as its ability to form biofilms. It also blocked a molecular pathway involved in inflammation. Researchers say they're developing an oral device that could slowly release the extract after deep cleaning to help treat periodontitis.

COULD THE HPV VACCINE TREAT WARTS?

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In a new report authored by Dr. John Stern, of the Division of Infectious Diseases at the University of Pennsylvania Health System, he believes the human papillomavirus (HPV) vaccination may actually work as a treatment, zapping warts in people already infected.

The report describes several cases of people who had persistent oral warts that went away soon after they received the HPV vaccine. It highlights the case of a man in his 60s who had recurrent warts on his lips, tongue and cheeks for 18 months. The man tried to have the warts removed, but they kept coming back. Doctors diagnosed the man with an HPV infection. The man received the quadrivalent HPV vaccine, which protects against four HPV strains, and a month after the patient received the first dose of the HPV vaccine, he showed significant improvement, and within three months, the warts went away.

While it's too early to say for certain whether the HPV vaccine treated the warts – and researchers are keen to stress anyone with the HPV should refrain from asking for the vaccination – the report should prompt researchers to try to understand why some people appear to benefit from getting the vaccine even after they have an HPV infection, while others don't.