

## Case studies in health care

### How sonic toothbrushes work

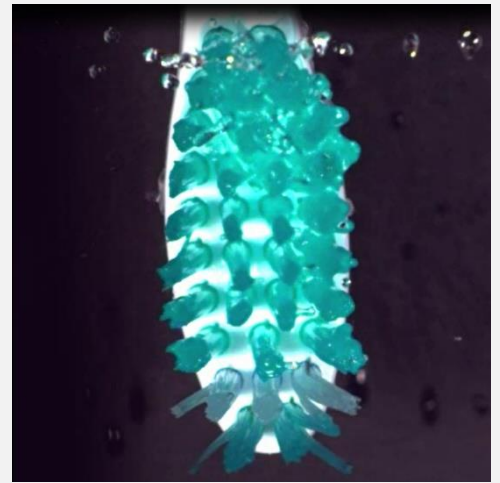
健康护理中的应用案例 - 声波牙刷是如何工作的

The vibration created by a sonic toothbrush ranges between 200 and 400 Hz. This means 24,000 - 48,000 movements per minute. With high-speed vibration, the sonic vibrating toothbrush can effectively clean the teeth and keep the mouth healthy. But have you ever seen how it works? What happens when it runs at high speed?

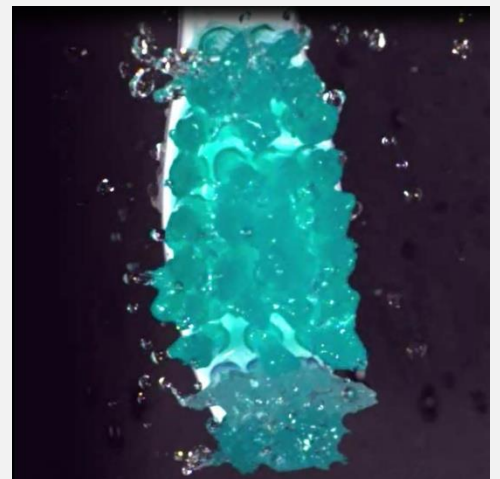
声波震动牙刷的震动频率大约在 200-400Hz 之间，也就是每分钟震动 12000-24000 次。通过高速的震动，声波震动牙刷能有效清洁牙齿，保持口腔健康。但你有看过它是怎样工作的吗？当它高速运转时发生了什么？

Sonic vibration toothbrush vibration is extremely fast when it is running, and it is difficult for the human eye to observe, but a piece of cake for a powerful high-speed digital camera. The pco.dimax digital high-speed camera helps to reveal the state of a running sonic toothbrush. Low exposure time is used to avoid blurred images. High illumination and color fidelity guarantee high quality of images. You can clearly see the details of the toothbrush acting on the surrounding liquid.

声波震动牙刷运转时震动极快，人眼难以观察。而对于高速相机而言，则是轻而易举的事。使用低曝光时间避免出现模糊的图像，高亮度的照明与出色的色彩还原度，确保高质量的图像。你可以清晰地看见牙刷作用于周边液体的细节。



View of the observed sonic toothbrush  
所观察到的声波震动牙刷



The sonic toothbrush interacts with the  
liquids around it.  
声波震动牙刷作用于四周的液体