

# Dentistry and dental science

with the Iowa Institute for Oral Health Research

## Talking points

### KNOWLEDGE

1. How many people are affected by periodontitis every year?
2. What is the collective name for all the microbes found in your mouth?

### COMPREHENSION

3. What is the difference between a denture and a tooth implant?
4. How have tooth replacement strategies improved since the 1980s?
5. How is artificial intelligence (AI) used in dental research? What are the advantages of AI over traditional statistical methods?

### APPLICATION

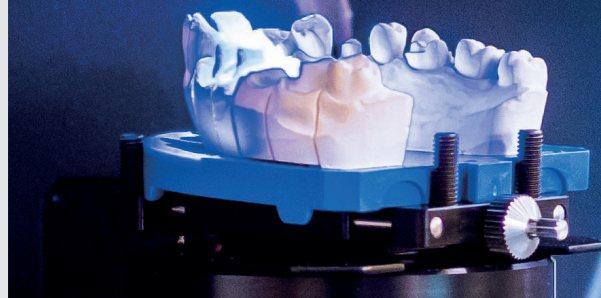
6. What advice would you give to parents to prevent their child developing early childhood caries (ECC)?
7. ECC is predominantly caused by behavioural factors. How would you conduct a study to investigate whether the disease is also influenced by genetics? How would bioinformatics assist you in your research?
8. Imagine a dental implant manufacturer has created a new and more comfortable implant. How would you design a study to test the comfort of the new implant compared to older models?

### ANALYSIS

9. What biological mechanisms cause periodontitis? What behavioural factors influence these biological mechanisms?
10. Why do you think Karin's oral health intervention relies on theories from psychology to influence people's behaviour?
11. What difficulties do you think a child with cleft lip and/or palate will face?
12. How have Azeez, Chris, Erliang, Karin and Shaoping's personal experiences influenced the work they do?

### EVALUATION

13. Why is oral hygiene so important?
14. To what extent do you agree that scientists are justified in using animals to learn more about human health and disease?
15. Would you prefer a career as a clinical dentist, a dental scientist or both? Why?



## Activities

### The importance of oral health education

Education is one of the best methods for improving oral hygiene. People are more likely to practise good oral hygiene if they are taught how to do so and why it is important.

#### 1. Design an oral hygiene lesson for children

Imagine that a local school has invited you to teach a class of 8-11-year-olds about dental health and oral hygiene. Create a lesson plan that helps them understand why it is so important to maintain good oral hygiene and to show them how best to do this. You can use information from this article as well as from other sources that you find online. Your lesson should be fun and interactive to keep your young audience engaged and interested. For example, what activities could you include?

#### 2. Design an oral hygiene lesson for parents

Imagine that a local community centre has invited you to teach a group of new parents about dental health and hygiene. Create a lesson plan that helps them understand why it is so important to maintain good oral hygiene in their young children and to show them how best to do this. You can use information from this article as well as from other sources that you find online. Your lesson should be informative and engaging and provide the parents with the knowledge and skills needed to look after their children's oral health. For example, why is it important to protect a baby's oral health before they even develop teeth, and how can parents do this?



### 3. Design oral hygiene educational leaflets

Create two leaflets to accompany your oral health lessons, one for 8-11-year-olds and one for parents of babies and young children. How will you ensure each leaflet is appropriate for the intended audience? What key information needs to be contained in each leaflet, and how will you design each version so that it is informative, eye-catching and engaging for the target readers?



Regular dental check-ups are a key component of oral healthcare  
© wavebreakmedia/Shutterstock.com

## More resources

- Learn more about oral health from the World Health Organization: [www.who.int/health-topics/oral-health](http://www.who.int/health-topics/oral-health)
- Follow this advice to keep your teeth healthy: [www.kidshealth.org/en/teens/teeth.html](http://www.kidshealth.org/en/teens/teeth.html)
- The Ancient Greeks used rocks and rust as toothpaste, George Washington had dentures made from hippo and elephant tusks, and the enamel on your teeth is the hardest substance in your body. Learn more fun facts from the Children's Dental Village: [www.childrensdentalvillage.net/patient/resources/interesting-facts](http://www.childrensdentalvillage.net/patient/resources/interesting-facts)