

## What's your philosophy – maximally destructive or minimally invasive dentistry?

An investigation of general dental practitioners' understanding and perceptions of minimally invasive dentistry  
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You have probably heard of the term 'minimally invasive dentistry' (MID), which might be considered the gold standard of modern restorative dentistry. It focuses on conservation of healthy tooth structure through preventive treatments and remineralisation of teeth. The MID concept is gaining popularity in recent years, yet how much do we know about it?

Let's do a quick quiz and see if MID is *your* practice philosophy:

A 20-year-old patient with high caries risk walks into your practice for an examination. From his radiograph, you spot an interproximal enamel caries. What would you do? Would you ignore the lesion? Put the tooth under observation? Or restore it? If your answer is to take preventive measures and observe the lesion, congratulations! You are implementing the concept of MID into practice.

In a study performed by Mirsiaghi and colleagues, a questionnaire was designed and distributed among General Dental Council dentists. The group of researchers found that overall, general dental practitioners in the UK have little understanding of MID.

The questionnaire was divided into three sections. Data was collected on participants' demography, 'knowledge and clinical practice'



and 'knowledge on three studied scenarios'. Out of 149 participants, only 11% were confident that they had full knowledge on MID. Over half of them thought that the caries risk assessment result would not affect the treatment plan. Results showed that less than a third (28%) of respondents scored in all three

studied scenarios, 31% scored two points, 26% scored one point and 15% scored zero.

Another statistically significant association between the respondents' qualification year and the score for the studied scenario was found. The study indicates that younger dentists and those who received postgraduate training

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### Author Q&A

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#### Why did you choose to study this topic?

Minimally invasive dentistry (MID) is an important but hitherto neglected topic, particularly in postgraduate teaching, as it is assumed that general dental practitioners (GDPs) know, understand the concept, and practise MID on a daily basis. We wanted to test these assumptions and explore their validity. The practice of restorative dentistry has changed and evolved during recent years, particularly

due to the advancement of adhesive materials and increased knowledge about the caries process. The dental profession therefore needs to fully understand that drilling and filling of teeth is not a cure for dental caries.

#### Why do you feel MID is not well known among UK GDPs?

Undergraduate teaching of MID is neither uniform nor indeed universally undertaken; the teachers are not consistently trained in the practice of MID; many senior GDPs have never been taught about MID but have perhaps attended a lecture or read an article, and the philosophy behind MID has not been universally accepted. The results of this study indicate a poor understanding of MID amongst dentists practising in the UK. This is illustrated by findings that 58% of respondents reported that they have

changed their approach to MID since they qualified but only 8% reported always using adhesive restorative materials.

#### What do you think needs to happen to change this?

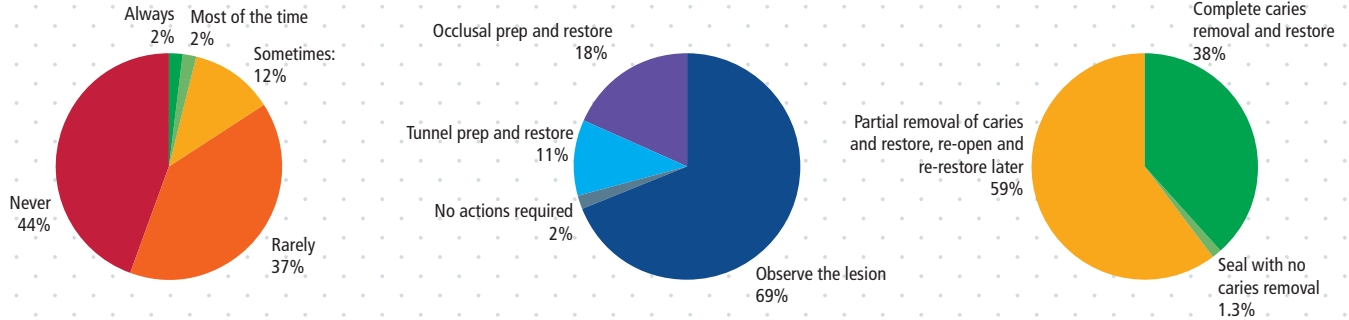
There needs to be:

- (a) More postgraduate courses that are both didactic and practical to train and update GDPs on MID
- (b) More tutors who practice MID teaching at undergraduate and postgraduate levels
- (c) An accepted definition of MID which clarifies any potential current misconception
- (d) On-going research into restorative techniques and materials, and
- (e) A recognition by the government that a preventive-centred approach to dentistry requires adequate funding under government sponsored dental health contracts. ■

## How would you answer these questions on the following scenarios?

- 1a** Would you treat and restore an interproximal lesion with a radiographic radiolucency confined to enamel, in a vital, asymptomatic, lower first molar in a low caries risk patient aged 25 years?
- 1b** Referring to the same patient, if the caries risk is high, what would your treatment be?
- 2** You are restoring a vital, asymptomatic lower first molar tooth. The bitewing radiograph shows a radiolucent lesion well into the dentine and in close proximity to the pulp. What would you do?

### What survey respondents said...



Overall, only 28% of survey respondents scored all three scenarios correctly

Sample size N = 149

were more likely to apply the MID philosophy compared to the older dentists.

The lack of knowledge of MID might be due to gaps in training and/or knowledge and understanding. Postgraduate and CPD training are essential to improve this situation.

A re-training programme might be beneficial for dentists in older generations so that they can gain more confidence in MID application. The authors would like to conduct a larger scale study in the future. They would also like to extend the study to investigate

if policies within the NHS are discouraging practitioners from practicing MID, and to compare the level of MID application among dentists who are working in different salaried positions.

By Christy Ng