

What can we do to reduce dental aerosol?

In last months article we discussed ACH and how this can influence the overall fallow time allowed in-between patients. The aim for all dental practices is to try to work towards the shortest time, allowing more patients to be seen, without compromising safety. The way that this can be achieved is to expel or reduce the amount of aerosol that is being produced.

Although ventilation is the main way of achieving fresh replenishment of the contaminated air there are many products on the market that can help to make significant reductions in the level of aerosol produced.

One such way, and an instrument that is used for many procedures, would be to consider your choice of dental handpiece. There have been several studies to look at the production of aerosol in relation to the design of the hand piece. The more water spray ports that you have will aid the reduction in aerosol produced. The smaller the bur diameter will effectively have a lower circumferential speed and result in less aerosol. We should also replace worn out tools as these increase the work time and make the spray less precise resulting in more splatter.

Consider using an electric motor rather than an air driven hand piece. The spread of aerosols can partially be caused by turbines at the burr and speed of its surface. When you consider that a turbine can have a speed of up to 450,000Rpm it is easy to understand that there will be a vast increase in aerosol production from the burr tip.

Electric Motors, on the other hand, have an idle speed of approx. 40,000rpm which results in a burr speed of 200,000rpm for a speed increasing 1:5.

Electric motor driven hand pieces have other benefits where unlike turbines they can maintain a constant cutting speed and torque, which is determined by the operator, regardless of the material being cut. A turbine, on the other hand, will have its speed dramatically reduced the moment the burr comes in to contact with a material surface, hence this will increase the working time and therefore have an impact on fallow time.

If you have never used or considered an electric motor driven hand piece you should consider talking with a manufacturer who will be able to advise you on the best approach. This consideration will also help immensely when working out Group A procedures.

For more information please do not hesitate to contact me at info@deconpete.co.uk or visit www.deconpete.co.uk.