Lowest possible radiation exposure in paediatric dentistry: The 3D Low Dose Mode

Case Study
A young patient presented with lower jaw symptoms. Tooth 26 had a difficult arrangement (Dentition difficulty). A traditional panorama image was taken using the practice’s Orthophos SL 2D/3D hybrid X-ray unit. The initial imaging showed several problems including that the mandibular canal was covering the root of tooth 38. It also showed that the roots of teeth 38 and 48 were in the process of breaking down and that tooth 28 was displaced.

I suspected that tooth 26 suffered from inflammation of the root tip. In order to confirm the diagnosis, the practice took a DVT but in Low Dose Mode with the Orthophos unit. By using a 3D image, it was clear that the mesial root of tooth 26 was indeed inflamed and infected. The 3D image also helped to show the positional relationship of tooth 38 to the mandibular canal and the inter-radicular position of tooth 28. It also showed osteolysis from tooth 27. In this case, the 3D image enabled a more complete diagnosis of the young patient’s symptoms and revealed several problems that were not immediately obvious.

Results
Even in Low Dose Mode, the 3D images enabled proper visualisation of the positional relationship of tooth 38 to the mandibular canal and enabled the author to determine which of the three roots of tooth 26 was infected.

According to the study’s results, by the end of titration, all indications of OSA had decreased compared with the initial baseline. Overall, patients also showed a reduction of vertical movements and symptoms of sleep protective effort, as well as a dramatic decrease in obstructive hypopnoea. Scores from the apnoea-hypopnoea index and oxygen desaturation index also dropped, and the researchers found that MM monitoring also helped reveal the presence of central apnoea.

With new technology on the horizon, the researchers believe that MM monitoring could potentially represent a cost-effective and easy-to-implement tool for sleep clinics to use when titrating oral appliances. “MM monitoring during sleep is practical and informative for measuring indices of residual respiratory events when OSA is treated by oral appliances,” commented Martinot.

The study, titled “Mandibular movement monitoring may help improve oral sleep apnoea devices” was published online on 6 November 2018 in Chest ahead of inclusion in an issue.

Mandibular movement monitoring may help improve oral sleep apnoea devices

By Dental Tribune Middle East & Africa Edition | 6/2018

Case Study
A young patient presented with lower jaw symptoms. Tooth 26 had a difficult arrangement (Dentition difficulty). A traditional panorama image was taken using the practice’s Orthophos SL 2D/3D hybrid X-ray unit. The initial imaging showed several problems including that the mandibular canal was covering the root of tooth 38. It also showed that the roots of teeth 38 and 48 were in the process of breaking down and that tooth 28 was displaced.

I suspected that tooth 26 suffered from inflammation of the root tip. In order to confirm the diagnosis, the practice took a DVT but in Low Dose Mode with the Orthophos unit. By using a 3D image, it was clear that the mesial root of tooth 26 was indeed inflamed and infected. The 3D image also helped to show the positional relationship of tooth 38 to the mandibular canal and the inter-radicular position of tooth 28. It also showed osteolysis from tooth 27. In this case, the 3D image enabled a more complete diagnosis of the young patient’s symptoms and revealed several problems that were not immediately obvious.

Results
Even in Low Dose Mode, the 3D images enabled proper visualisation of the positional relationship of tooth 38 to the mandibular canal and enabled the author to determine which of the three roots of tooth 26 was infected.

According to the study’s results, by the end of titration, all indications of OSA had decreased compared with the initial baseline. Overall, patients also showed a reduction of vertical movements and symptoms of sleep protective effort, as well as a dramatic decrease in obstructive hypopnoea. Scores from the apnoea-hypopnoea index and oxygen desaturation index also dropped, and the researchers found that MM monitoring also helped reveal the presence of central apnoea.

With new technology on the horizon, the researchers believe that MM monitoring could potentially represent a cost-effective and easy-to-implement tool for sleep clinics to use when titrating oral appliances. “MM monitoring during sleep is practical and informative for measuring indices of residual respiratory events when OSA is treated by oral appliances,” commented Martinot.

The study, titled “Mandibular movement monitoring may help improve oral sleep apnoea devices” was published online on 6 November 2018 in Chest ahead of inclusion in an issue.