A Review of Treatments for Dental unit Waterline System (Duws)
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Objectives: To discuss various types of treatments that can help in achieving water quality levels recommended by the American Dental Association (ADA).

Methods: All the materials contained in this review were based on peer-reviewed literature.

Results: Much previous literature has demonstrated that the output water from dental unit waterline system was often highly contaminated unless an appropriate treatment was employed. Flushing and filtration were first proposed for this problem. However, many studies highlighted that they were tedious and ineffective. As modern technology develops, more and more sophisticated treatments are then proposed. Currently, chemical treatments are the most commonly used as they can remove biofilm formed on the interior side of water tubing and significantly reduce the environmental microorganisms present in the water phase. However, they may inherit some disadvantages such as excessive release of mercury ions from amalgam, clogging of waterlines, natural selection of disinfectant-tolerant microorganisms and corrosive to the dental instruments. Human compliance to the treatment protocol is often the most significant reason of waterline treatment failure. Therefore, some automated disinfection systems integrated to the modern dental chair were then proposed. A recent study even suggested that the water quality control should be carried out throughout the dental chair supply water network rather than just within DUWS.

Conclusion: Variety of treatments for DUWS have been proposed in the literature, however, no definitive solution has been achieved and therefore their long-term efficiency remain unknown. Further research involving longitudinal study should thus be carried out.

Root Resorption of Maxillary Central Incisors by Bilateral Impacted Canines – A Case Report
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Maxillary canine impaction is not the common situation in dental practice, but it happens sometimes. The situation may be discovered at periodic clinical examination by pediatric dentists, general dentists or orthodontists.

Unilateral maxillary canine impaction is relatively common than bilateral. Besides, root resorption of lateral incisors by impacted maxillary canines is well known.

The case report describes a rare condition regarding bilateral maxillary impacted canines which cause both central incisors lost with severe root resorption. The treatment plan was surgical exposure of the impacted canines and let them substitute central incisors.

However, the morphology and color of canines are different from central incisors. Therefore, the main problem of the case was how to achieve the aesthetic expectation of the patient after orthodontic treatment. In this case we use the porcelain veneer technology to restore the tooth morphology and to camouflage the dark shade of canines. The porcelain veneers have advantages about the minimal preparation of the tooth structure and reaching good outcome in esthetics.

Another problem is the age of the patient. According to the literature, the permanent restoration should not be done until the growth potency is stable. For the reason, we will not fabricate the permanent prosthesis till the patient is 18 years old.

We show a rare case about the bilateral maxillary impacted canines which resorb the maxillary central incisors severely. The maxillary canines substitute maxillary central incisors subsequently by orthodontic forces because of the lost of maxillary central incisors. The treatment combined with orthodontics and prosthodontics parts to reach the good final result.