

Rubber dam application in endodontics: Evidence and practice

Rubber dam (RD) has been essential to effective isolation in endodontic practice for more than 150 years. RD facilitates the use of the strong chemicals necessary to disinfect the root canal system. Moreover, it reduces microbial contamination and the potential for patients to swallow or inhale foreign bodies. RD also enhances visibility and optimizes the moisture control and retraction of the soft tissue, thus improving the efficiency of root canal treatment (RCT).^[1] Despite these valuable advantages, studies indicate a significant discrepancy between the expected learning outcomes for RD as discussed in higher dental education and the attitude of general dental practitioners (GDPs) before and after graduation regarding its use.^[1] This discrepancy may be attributed to its difficult placement and the time required for proper implementation, in addition to the lack of scientific evidence for the effectiveness of RD.^[1]

Rubber dam represents the indispensable “Gold Standard of Care” in endodontic practice. Many scholars consider RD an essential protective barrier whose effectiveness need not to be proven by a study. Nonetheless, the negative effect of not using RD in RCT has been reported in literature.^[1,2] Furthermore, it appears that obtaining a scientific evidence for the effectiveness of RD application is currently feasible via well-controlled retrospective studies. For instance, a recent clinical survey conducted by a group of researchers from Taiwan confirmed that the application of the RD during RCT can significantly increase survival rate after initial RCT.^[3] These findings may encourage researchers to conduct similar surveys on different population groups. However, such retrospective investigations should be designed properly. Otherwise, researchers may assume that the absence of an RD clamp in the verification radiograph is a definite sign of its nonapplication,^[4] and ignore the fact that RD can also be implemented using elastic stabilizing cords, nonmetallic clamps, and other methods that do not appear in radiographic view.

On the basis of universal agreement and scientific evidence provided on the effectiveness of RD application in endodontics, “What should be the next step?” Monitoring is an important step, and conducting prospective surveys for students after graduation aids in monitoring their attitudes toward RD use. The detection of negative attitudes, as well as the determination of their causes and possible solutions, enhances the learning process before and after graduation.^[1] Prior

to this monitoring process, however, a more important step must be considered: The availability of “an appropriate RD armamentarium” in the dental clinic. The capability of health institutions, healthcare centers, and public/private hospitals in all countries to supply dental clinics with multiple sets of different types of metallic and plastic clamps (including deep-reaching clamps) that supposedly suit every tooth position and situation is critical to encouraging GDPs and specialists to apply RD in all clinical situations. These institutions must also be capable of providing inter-proximal wedges, hydrophobic nonsetting caulking pastes, and latex and nonlatex RD sheets. This would pave the way for optimal patient safety, and would protect GDPs and specialists from legal issues caused by undesirable consequences from not using the RD.

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