

The role of regenerative endodontics in modern dental practices: A comprehensive review.

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Introduction

Geriatric oral health care is becoming increasingly important as the global population ages. Addressing the unique endodontic needs of older adults is critical in enhancing their overall health and quality of life [1]. Aging brings specific challenges to dental care, particularly in endodontics, which deals with the treatment of diseases related to the dental pulp and root canal. Seniors often experience increased wear on their teeth, reduced salivary flow, and a higher incidence of both root decay and periodontal disease. These conditions create a complex environment for endodontic procedures, requiring a tailored approach [2].

One of the primary considerations in geriatric endodontics is the structural changes that occur in older teeth. With age, dental pulp chambers become smaller and the pulp tissue decreases in vitality, often resulting in calcified canals [3]. These calcifications can complicate root canal treatments by making it difficult to locate and clean the canals effectively. Endodontists must rely on advanced imaging techniques and specialized tools to manage these anatomical changes, ensuring treatment efficacy and minimizing complications [4].

Older adults are also more likely to have chronic health conditions, such as diabetes, cardiovascular disease, or osteoporosis, which can influence oral health and complicate endodontic procedures. For example, diabetes can reduce healing potential, increasing the risk of infection after endodontic treatment [5]. It's essential for dental professionals to work closely with patients' healthcare providers to understand their medical histories and adjust treatment plans accordingly. This collaborative approach helps manage potential risks and enhances recovery, making endodontic care safer for aging patients [6].

In addition to medical complexities, the social and psychological aspects of aging also impact dental care. Financial constraints, transportation challenges, and mobility issues may limit seniors' access to consistent oral healthcare [7]. Furthermore, elderly patients may experience anxiety about invasive dental procedures. Clear communication, empathetic care, and flexible scheduling can significantly improve their experience and willingness to undergo essential treatments, including endodontic care [8].

Innovations in geriatric endodontics, such as minimally invasive procedures and regenerative treatments, are helping to address these challenges. Advances in materials, imaging technology, and techniques allow for more accurate and less invasive approaches to treat elderly patients effectively [9]. As dental professionals continue to recognize the unique endodontic needs of aging populations, targeted care can significantly improve the oral health and overall well-being of older adults, supporting healthier aging [10].

Conclusion

Structural changes in older teeth, chronic health conditions, and accessibility issues all contribute to the complexity of providing effective care. By adopting advanced imaging, minimally invasive techniques, and collaborative care with other healthcare providers, dental professionals can improve the outcomes and comfort for elderly patients. Prioritizing these adaptations in endodontic treatments not only enhances oral health but also supports the overall quality of life and well-being of aging individuals, contributing to healthier, more dignified aging experiences.

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