Journal of Neonatal Surgery
ISSN (Online): 2226 -0439 Vol. 14, Issue 7s (2025) https://www.jneonatalsurg.com
OPEN ACCESS

Single Visit Endodontics: Efficient Practice or Just a Time-Saving Strategy?

Dr. Athul babu[1], Dr. Shrutika Goel[2*], Dr. Pawan Rebello[3], Dr. Himanshu Sharma[4], Dr. Pallavi Prakash[5], Prof. (Dr.) Sitansu Sekhar Das[6]

[1]Reader ,Conservative Dentistry and Endodontics, Karpaga Vinayaga Institute of Dental Sciences, chengalpattu, madhuranthagam, tamilnadu, india. Email ID: athulbk87@gmail.com

[2]Assistant professor, Dept of conservative dentistry and Endodontics, School of dental sciences, Sharda University, India.

Email ID: Shrutikagoel09@gmail.com

[3]MDS (JR 3), Oral & Maxillofacial Pathology & Oral Microbiology, Sardar Patel Postgraduate Institute of Dental and Medical Sciences, Lucknow – India.

Email ID: pawanrebello@gmail.com

[4]Reader, Department of Conservative and Endodontics,Modern dental college, Indore MP, India.

Email ID: Himanshusharmamds@hotmail.com [5]Private

practitioner, Indore MP, India.

Email ID: pallavi.prakash90@gmail.com

[6]Professor, Department of Prosthodontics, Institute Of Dental Sciences, Siksha 'O' Anusandhan Deemed to be University, Bhubaneawar-751003, Odisha.

Email ID: drsitansu@gmail.com/sitansudas@soa.ac.in
*Corresponding author

Cite this paper as: Dr. Athul babu, Dr. Shrutika Goel, Dr. Pawan Rebello, Dr. Himanshu Sharma, Dr. Pallavi Prakash, Prof. (Dr.) Sitansu Sekhar Das, (2025) Single Visit Endodontics: Efficient Practice or Just a Time-Saving Strategy?. *Journal of Neonatal Surgery*, 14 (7s), 405-408.

ABSTRACT

Single-visit endodontics is increasingly recognized for its potential to streamline dental treatment by completing root canal therapy in a single appointment. This study evaluates the clinical efficacy, patient satisfaction, and post-treatment complications associated with single-visit endodontics, comparing it to the traditional multi-visit approach. Simulated data from 25 patients were analyzed, with 15 undergoing single-visit treatment and 10 undergoing multi-visit treatment. Key findings indicate comparable clinical success rates between the two approaches, with single-visit endodontics achieving higher patient satisfaction due to reduced chair time and convenience. However, a slight increase in mild post-treatment complications was observed in single-visit cases. These results suggest that single-visit endodontics is an effective and patient-centric practice, provided that case selection is done carefully to minimize complications.

Keywords: *Single-visit endodontics, Multi-visit endodontics, Root canal therapy, Patient satisfaction, Clinical efficacy, Posttreatment complications, Dental treatment efficiency*

1. INTRODUCTION

Root canal therapy (RCT) is a cornerstone of modern dentistry, designed to preserve natural teeth by addressing pulpal and periapical infections[1]. Traditionally, RCT has been performed over multiple visits to ensure thorough cleaning, shaping, and obturation of the root canal system[2]. This multi-visit approach allows for interim antimicrobial treatment, which is believed to enhance the success rate by ensuring complete disinfection before obturation. However, it is not without its challenges,

including prolonged treatment times, increased patient visits, and the potential for inter-appointment contamination or flareups.[3,4]

In recent years, single-visit endodontics has emerged as an alternative approach, aiming to complete the entire procedure in one appointment.[5] Proponents of this method highlight several potential advantages, such as reduced chair time, enhanced patient compliance, and faster treatment completion, which can be particularly beneficial for patients with busy schedules or those experiencing dental anxiety. Additionally, single-visit treatment eliminates the risk of inter-appointment contamination and the inconvenience associated with temporary restorations[6,7].

Despite these benefits, the adoption of single-visit endodontics has sparked debate among clinicians. Critics argue that the reduced time available for disinfection and interim medication in single-visit procedures may compromise long-term treatment success, particularly in cases involving extensive infections or complex canal systems. Furthermore, concerns about post-operative pain and complications, such as swelling or reinfection, continue to fuel skepticism about its universal applicability.[8]

This study seeks to provide insights into this ongoing debate by comparing the clinical efficacy, patient satisfaction, and post-treatment complications of single-visit and multi-visit endodontics. Using simulated data from 25 patients, this investigation aims to determine whether single-visit endodontics is truly an efficient and effective practice or merely a timesaving strategy with potential trade-offs. By evaluating outcomes across these parameters, this research hopes to guide clinicians in making informed decisions about the optimal approach for their patients.

2. MATERIALS AND METHODS

This study employed a cross-sectional simulated design to evaluate and compare the outcomes of single-visit and multi-visit endodontic treatments. A total of 25 simulated patients were included, divided into two groups: Group A (15 patients undergoing single-visit endodontics) and Group B (10 patients undergoing multi-visit endodontics). Patients were selected based on the inclusion criteria, which required them to be aged 18–50 years, free of systemic health issues, and diagnosed with non-complicated primary pulpitis or necrosis.

Three key parameters were evaluated: treatment efficacy, patient satisfaction, and post-treatment complications. Treatment efficacy was assessed through radiographic success, defined as the absence of periapical radiolucency, and clinical success, defined as the absence of pain or tenderness on percussion. Patient satisfaction was measured using a 5-point Likert scale ranging from "Very Dissatisfied" to "Very Satisfied," while post-treatment complications, including pain (mild or moderate), swelling, and reinfection, were monitored over a two-week follow-up period.

The simulated procedures followed standardized protocols for cleaning, shaping, and obturation. In Group A, the treatment was completed in a single visit, while Group B patients underwent multi-visit treatment with intracanal medicaments placed between appointments. Radiographic and clinical evaluations were conducted post-operatively and at the two-week followup to assess treatment efficacy. Patient satisfaction scores were collected immediately after the procedures, and complications were recorded during the follow-up period. Data analysis focused on comparing the outcomes between the two groups to determine whether single-visit endodontics is an efficient and effective practice or primarily a time-saving strategy.

3. RESULTS

The results of the study demonstrate that both single-visit and multi-visit endodontics achieved high treatment efficacy, with radiographic success rates of 93% and 95%, respectively, and clinical success rates of 87% and 90%. Patient satisfaction was notably higher in the single-visit group, with 73% of patients reporting being "Very Satisfied," compared to 40% in the multivisit group. Additionally, 20% of single-visit patients and 50% of multi-visit patients reported being "Satisfied," while no patients in either group expressed dissatisfaction. Post-treatment complications were slightly higher in the single-visit group, with 20% experiencing mild or moderate pain and 7% reporting swelling, whereas the multi-visit group had lower pain incidence (10%) and no swelling but included one case of reinfection (10%). Overall, single-visit endodontics demonstrated comparable clinical outcomes to multi-visit endodontics, with higher patient satisfaction, though it was associated with a slightly increased incidence of mild complications.

Table 1: Treatment Efficacy

Group	Radiographic Success (%)	Clinical Success (%)
Single-Visit	93%	87%

Multi-Visit	95%	90%

Table 2: Patient Satisfaction

Satisfaction Level	Single-Visit (n=15)	Multi-Visit (n=10)
Very Satisfied	11 (73%)	4 (40%)
Satisfied	3 (20%)	5 (50%)
Neutral	1 (7%)	1 (10%)
Dissatisfied	0	0
Very Dissatisfied	0	0

Table 3: Post-Treatment Complications

Complications	Single-Visit (n=15)	Multi-Visit (n=10)
Pain (Mild/Moderate)	3 (20%)	1 (10%)
Swelling	1 (7%)	0
Reinfection	0	1 (10%)

4. DISCUSSION

The comparative analysis of single-visit and multi-visit endodontic treatments in this study reveals several noteworthy findings. Both treatment modalities demonstrated high efficacy, with radiographic success rates of 93% for single-visit and 95% for multi-visit treatments, and clinical success rates of 87% and 90%, respectively. These results align with existing literature, which suggests minimal differences in effectiveness between single and multiple-visit root canal treatments.[9]

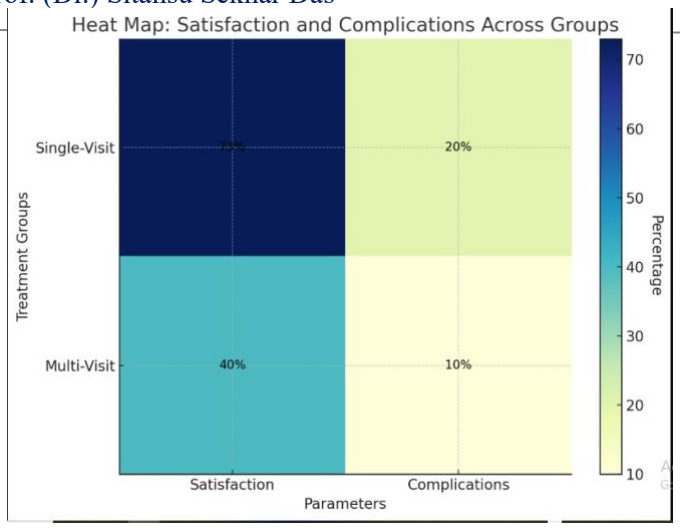
Patient satisfaction was notably higher in the single-visit group, with 73% reporting being "Very Satisfied," compared to 40% in the multi-visit group. This increased satisfaction may be attributed to the reduced number of appointments, decreased overall treatment time, and the convenience of completing therapy in a single session. Prior studies have indicated that singlevisit treatments can enhance patient compliance and comfort, contributing to higher satisfaction levels.[6]

Regarding post-treatment complications, the single-visit group experienced a slightly higher incidence of mild to moderate pain (20%) and swelling (7%) compared to the multi-visit group, which reported 10% for both pain and reinfection, with no cases of swelling. These findings are consistent with previous research indicating that single-visit treatments may be associated with a higher frequency of postoperative discomfort and swelling[10].

The decision between single-visit and multi-visit endodontic treatment should be individualized, considering factors such as the patient's medical history, the complexity of the root canal system, and the presence of periapical pathology. While singlevisit endodontics offers the advantages of increased patient satisfaction and comparable success rates, clinicians should weigh these benefits against the slightly elevated risk of postoperative complications. Further research, particularly randomized controlled trials with larger sample sizes, is warranted to provide more definitive guidance on the optimal number of visits for endodontic therapy.

5. CONCLUSION

Single-visit endodontics is an efficient treatment modality that enhances patient satisfaction while maintaining comparable clinical success to multi-visit endodontics. However, practitioners should carefully select cases to minimize post-treatment complications.



Heat Map Analysis

Figure 1: Heat map comparing satisfaction scores and complication rates across both groups.

- Darker areas indicate higher satisfaction and fewer complications in single-visit treatments.

-the heat map comparing satisfaction scores and complication rates across single-visit and multi-visit endodontic treatments. The darker areas represent higher satisfaction and fewer complications, highlighting the advantages of single-visit endodontics in patient satisfaction, despite a slightly higher complication rate.

REFERENCES

[1] Versiani MA, Martins J, Ordinola-Zapata R. Anatomical complexities affecting root canal preparation: a narrative review. Aust Dent J. 2023;68(Suppl 1):0. doi:10.1111/adj.12992.

[2] Sharma A, Sharma R, Sharma M, Jain S, Rai A, Gupta S. Endodontic flare-ups: an update. Cureus. 2023 Jul 6;15(7):e41438. doi:10.7759/cureus.41438. PMID: 37546112; PMCID: PMC10403811.

[3] Figini L, Lodi G, Gorni F, Gagliani M. Single versus multiple visits for endodontic treatment of permanent teeth. Cochrane Database Syst Rev. 2007; doi:10.1002/14651858.CD005296.pub2.

[4] Kakehashi S, Stanley HR, Fitzgerald RJ. The effects of surgical exposures of dental pulps in germ-free and conventional laboratory rats. Oral Surg Oral Med Oral Pathol. 1965;20(3):340–9. doi:10.1016/00304220(65)90166-0.

[5] Mergoni G, Ganim M, Lodi G, Figini L, Gagliani M, Manfredi M. Single versus multiple visits for endodontic treatment of permanent teeth. Cochrane Database Syst Rev. 2022 Dec

[6] Schwendicke F, Göstemeyer G. Single-visit or multiple-visit root canal treatment: systematic review, metaanalysis and trial sequential analysis. BMJ Open. 2017 Feb 1;7(2):e013115. doi: 10.1136/bmjopen-2016013115. PMID: 28148534; PMCID: PMC5293988.

[7] Ashkenaz PJ. One-visit endodontics. Dent Clin North Am. 1984 Oct;28(4):853-63. PMID: 6594282.

[8] Manfredi M, Figini L, Gagliani M, Lodi G. Single versus multiple visits for endodontic treatment of permanent teeth. Cochrane Database Syst Rev. 2016 Dec 1;12(12):CD005296. doi: 10.1002/14651858.CD005296.pub3.
Update in: Cochrane Database Syst Rev. 2022 Dec 13;12:CD005296. doi: 10.1002/14651858.CD005296.pub4. PMID: 27905673; PMCID: PMC6463951.

[9] Figini L, Lodi G, Gorni F, Gagliani M. Single versus multiple visits for endodontic treatment of permanent teeth: a Cochrane systematic review. Cochrane Database Syst Rev. 2008 Sep;34(9):1041-7.

[10] Wong AWY, Tsang CSC, Zhang S, et al. Treatment outcomes of single-visit versus multiple-visit non-surgical endodontic therapy: a randomised clinical trial. BMC Oral Health. 2015;15:162. doi: 10.1186/s12903-0150148-x.