

# Comparison of Endodontic and Implant Procedures as Options for Tooth Restoration



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## INTRODUCTION

- The complete structure and function of teeth are crucial to overall health.
- Infections, missing teeth, and other factors threaten oral and overall health.
- Ensuring that the appropriate treatment is accessible and provided is paramount to successful long-term patient outcomes.
- The goal of this study is to provide a comprehensive understanding of the benefits, accessibility, and long-term outcomes of dental implant and endodontic treatments.
- Dental implants appear to be more successful than endodontic treatments.
- Increased success comes at a higher cost financially along with the loss of natural dentition.

## QUICK FACTS ON ENDODONTICS AND IMPLANTS

- Root canals are procedures that target infected/inflamed pulp tissue inside of teeth (American Association of Endodontists, 2017).
- Root canal procedures are the last resort for saving a natural tooth.
- Dental implant procedures target teeth that are missing, infected, or hopeless (AAOMS, 2023).
- Dental implants are prosthetic alternatives to natural teeth that cannot be saved.

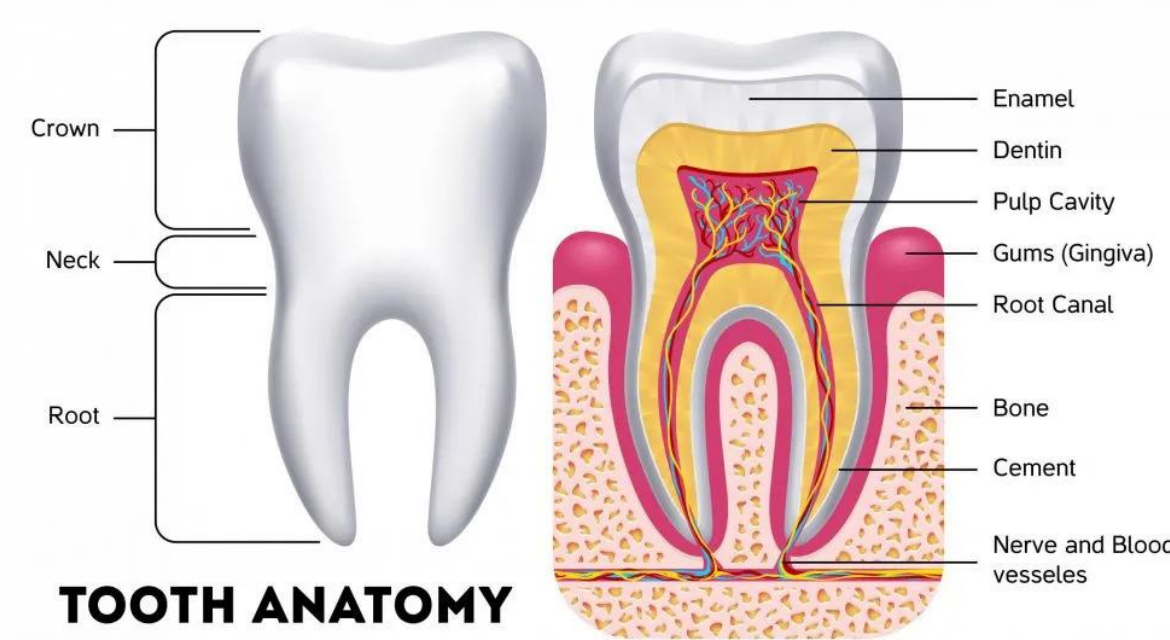


Figure 1. Diagram of the anatomy of a tooth. <https://www.endolynnwood.com/patient-information/about-your-tooth/>

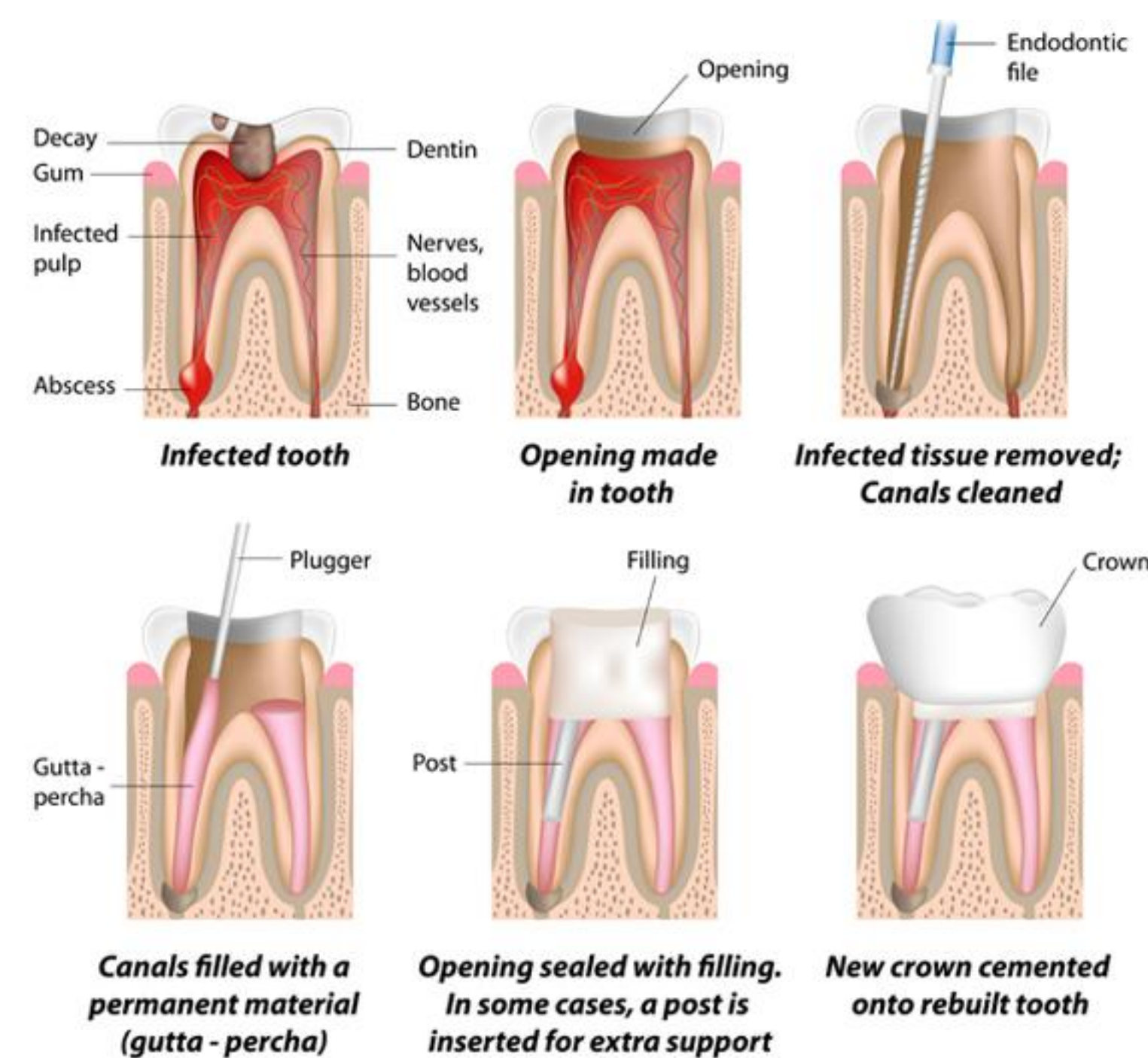


Figure 2. Diagram of root canal procedure. <https://www.firstpointdental.com/restorative/root-canal/>

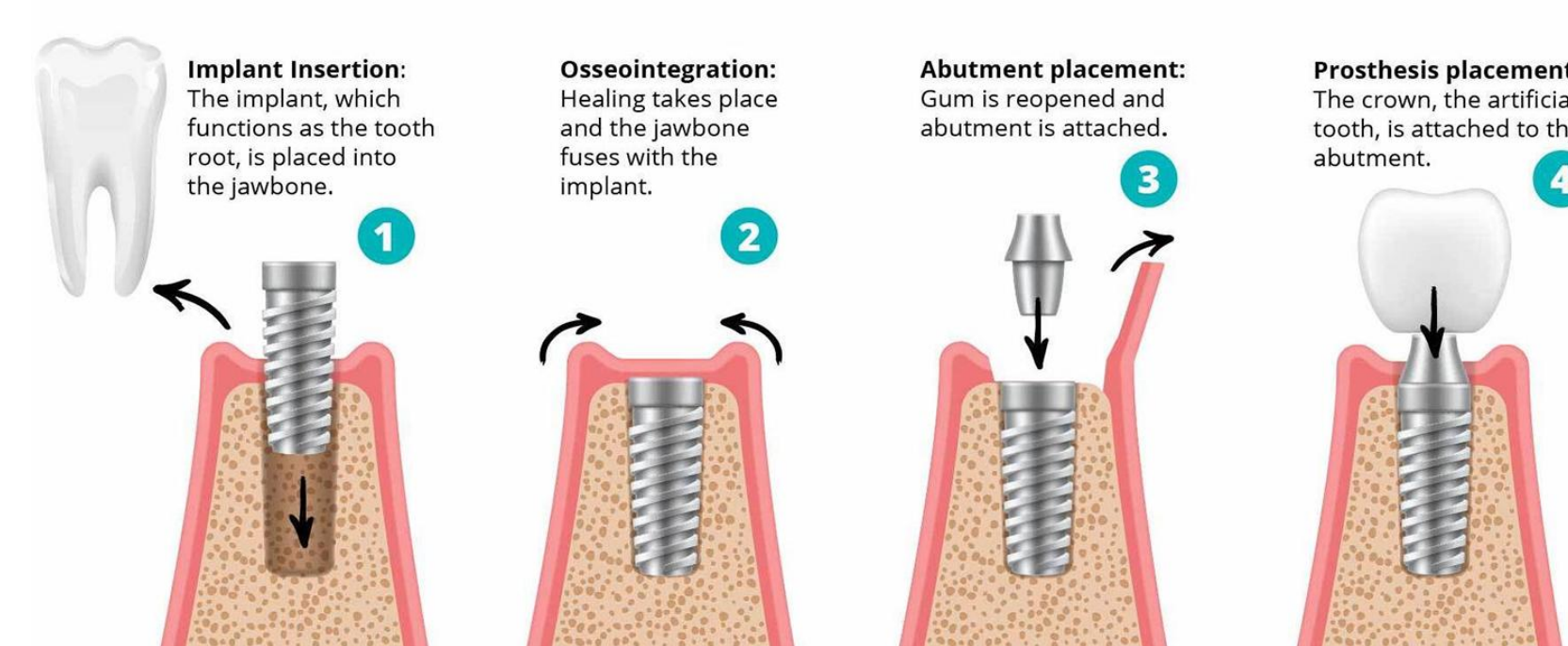


Figure 3. Diagram of dental implant procedure. <https://www.smithandvanlierop.co.za/implants>

## METHODS

- Observe patients at a local clinic over 6-week period.
- Collect data on procedure frequency, success rate, and cost.
- Research literature about success rate, and average cost of each procedure.

## RESULTS

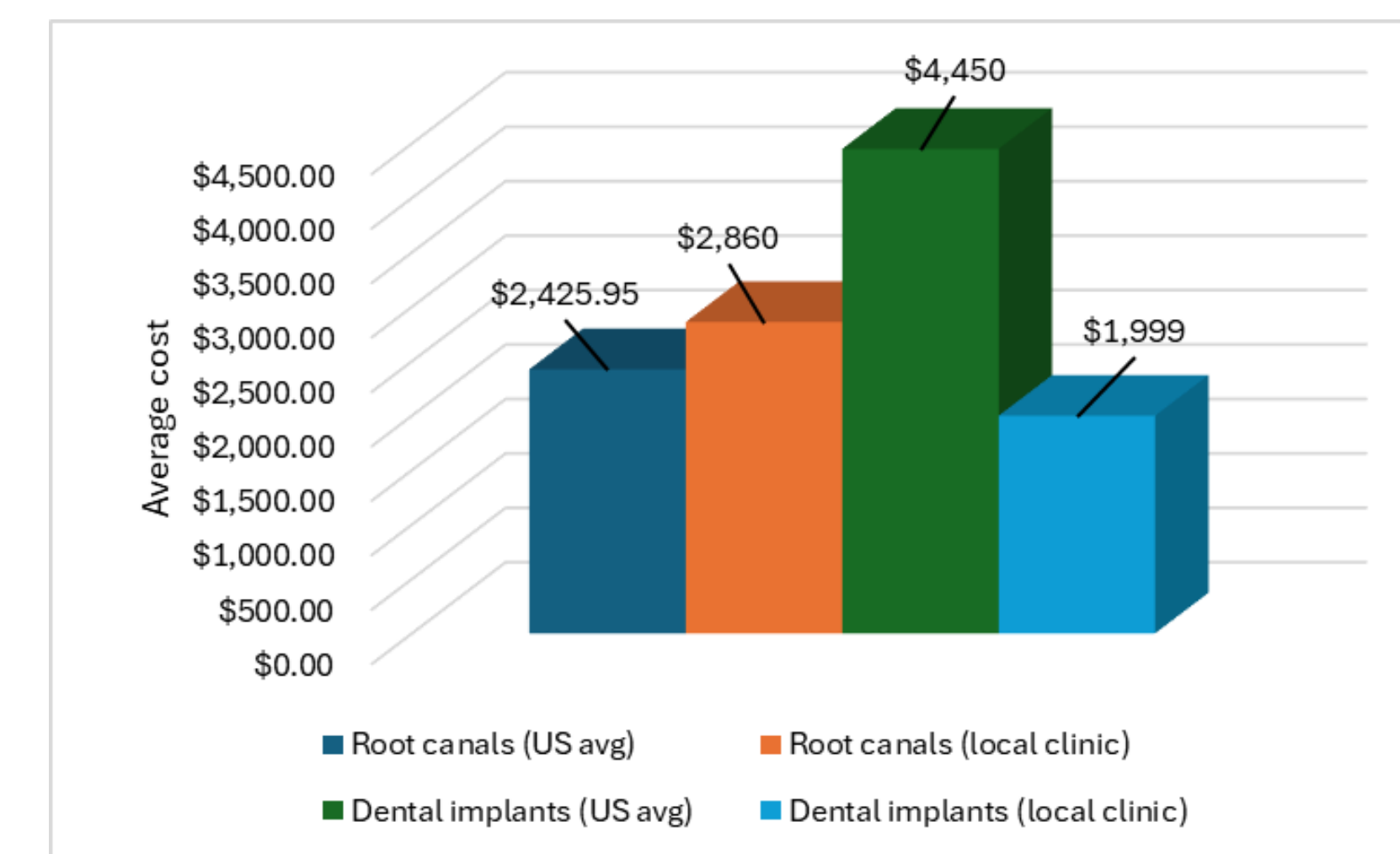


Figure 4. Comparison of the cost of root canal procedures (Thiebot et al., 2022) and implant procedures (Russell, 2021) based on the national averages and the local clinic that data was collected at.

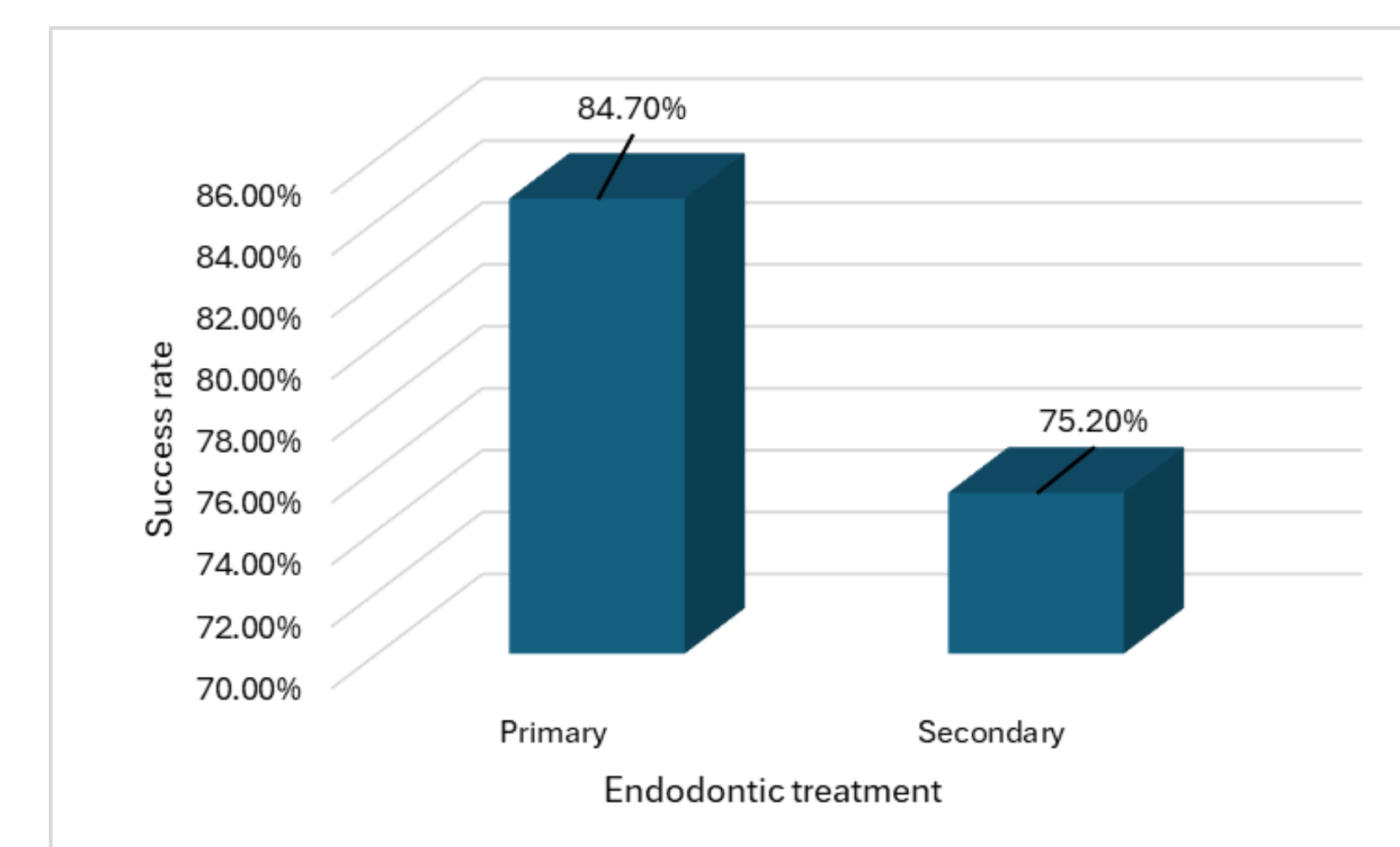


Figure 5. Comparison of the success rates of root canal/endodontic procedures depending on whether teeth were treated a single time (primary) or required retreatment (secondary) to complete restoration of the tooth based on a study that tracked 758 patients with 629 primary treated teeth and 630 teeth requiring secondary treatment (Rok Jurič et al., 2024).

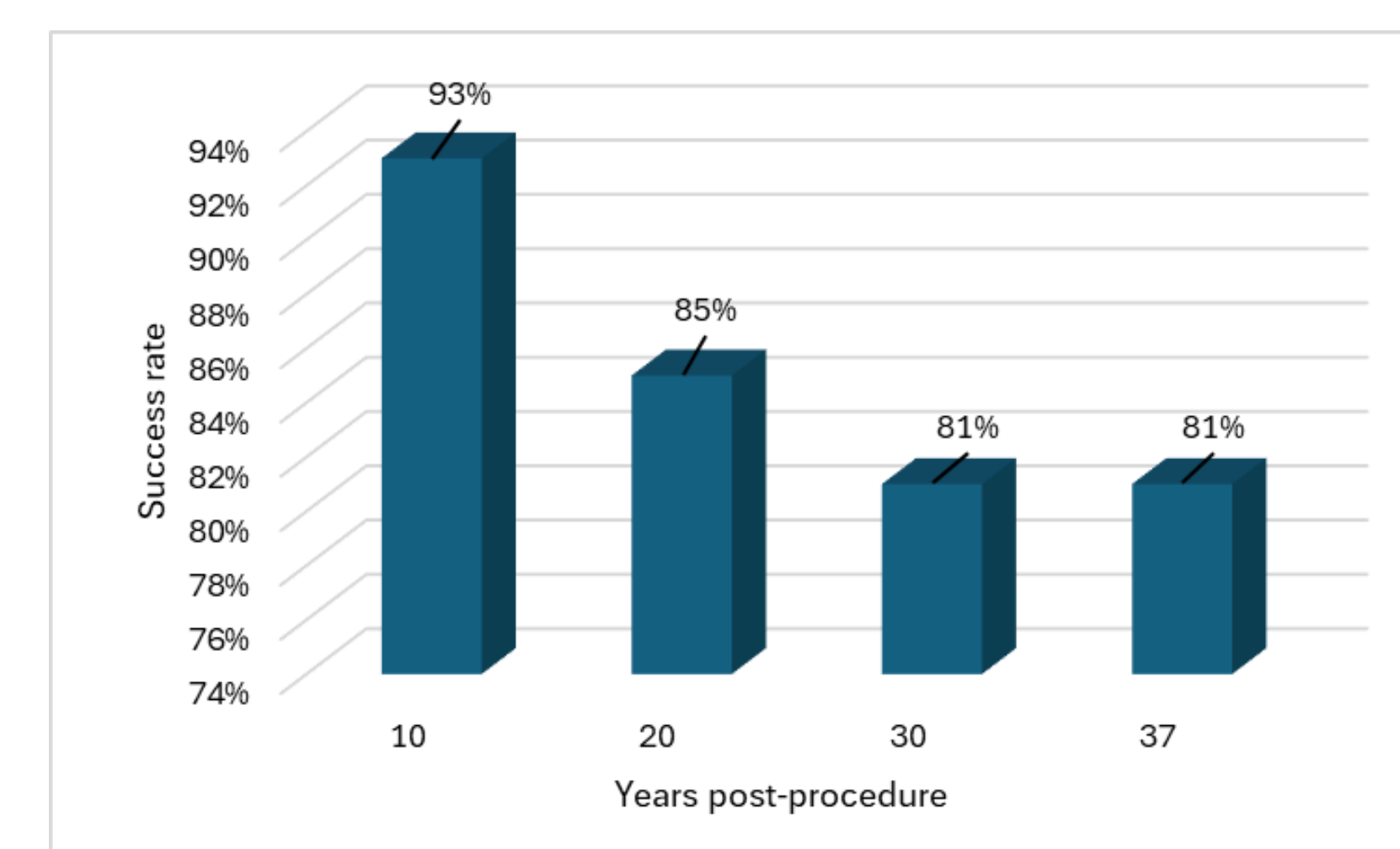


Figure 6. Analysis of the long-term success rates of root canal procedures based on a study that tracked 312 patients with 598 endodontically treated teeth over 37 years (López-Valverde et al., 2023).

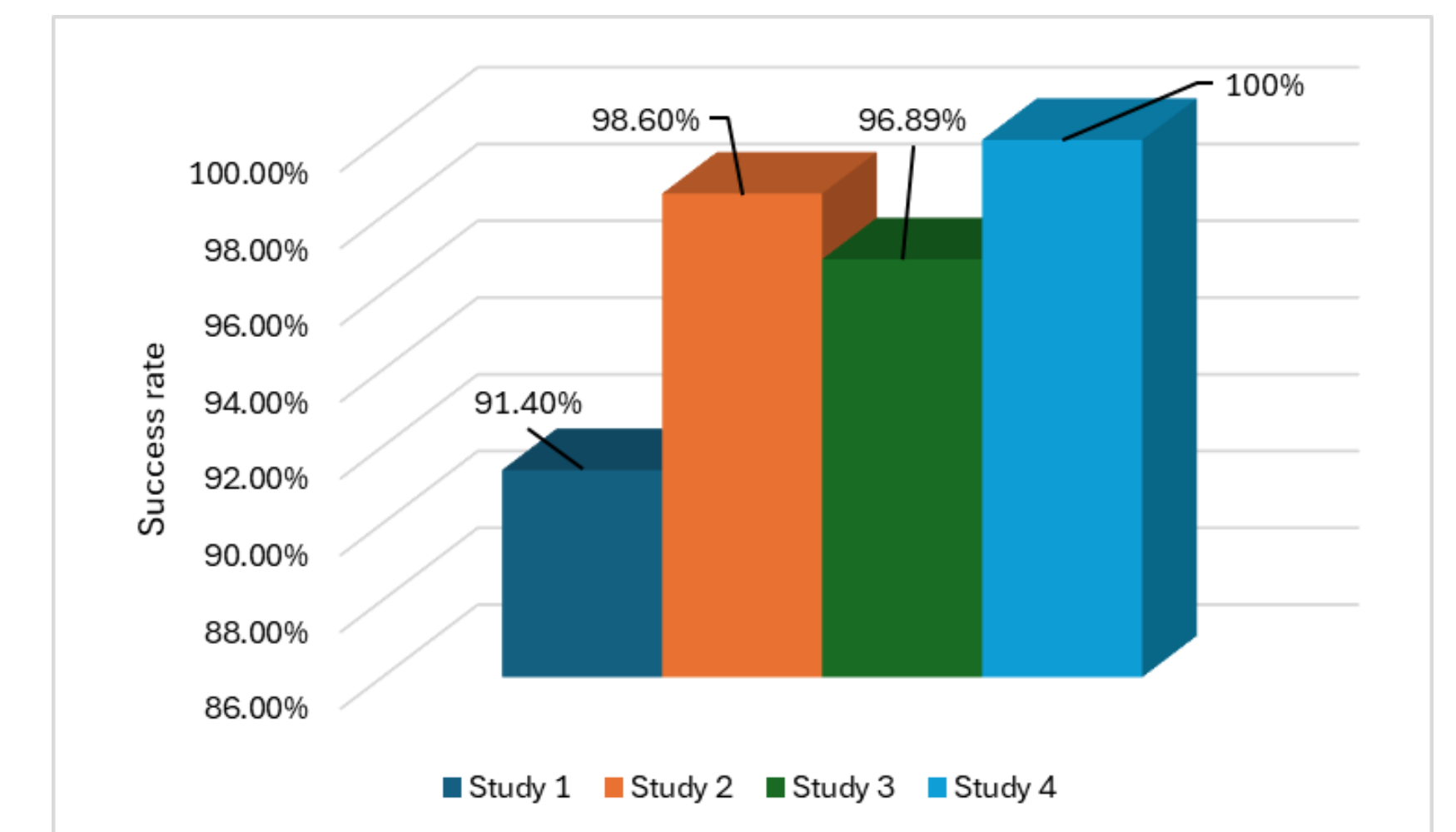


Figure 7. Comparison of reported implant success rates based on 4 studies. Study 1 tracked 128 patients treated with dental implants (Jain et al., 2024). Study 2 tracked 185 patients treated with 271 implants (Beschmidt et al., 2018). Study 3 tracked 376 patients treated with dental implants (Thiebot et al., 2022). Study 4 was based on this project's observation of 89 patients treated with implants.

## CONCLUSION

- Though both root canals and dental implants are generally successful, the latter is a better option for long-term success.
- If dental implant treatment is affordable, it is a competitive and successful alternative to endodontic treatments.
- Further research comparing these two treatment options is paramount and urgent.
- Working towards a treatment system that helps save patients money and provides the best possible treatment options should be at the forefront of dental research.

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## REFERENCES:

