

Does providing “Compromised treatment” equate to “Compromised care” or could it be considered “Appropriatech”?

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LM Sykes¹, J Kok², PT Nethononda³

ABSTRACT

Teeth are sensory structures that play a part in many different aspects of a patient’s life, including mastication, speech, smiling and aesthetics. As such they can affect both their functional and psychosocial wellbeing and quality of life. Unfortunately, these vital components can be lost due to caries, periodontal disease, dental trauma or iatrogenic damage. Dental practitioners should aim to provide treatment that will save and/or restore compromised or diseased teeth whenever possible. This may include direct or indirect restorations, endodontics, periodontal therapy and even reimplantation or autotransplantation in specific cases.¹ Despite the wide range of treatment possibilities, oral rehabilitation is often not available, accessible or affordable to all patients.² To try to “provide treatment for the many”, cost-effective procedures may need to be considered. However, this cost-cutting cannot be achieved by “ignoring sound prosthodontic principles” and needs to have some form of quality control.² This paper will give a brief review of the controversial cervical margin relocation technique. It will then use this as an example for how a clinician can debate whether the provision of “compromised treatment” equates to inferior care, or if it could be considered appropriate for the given situation. They need to also ensure that the chosen treatment is safe, adheres to evidence-based principles and still provides quality of care.

INTRODUCTION

Large interproximal carious lesions located below the cemento-enamel junction (CEJ) almost always require some degree of prosthodontic rehabilitation to restore the anatomy and function of the tooth in an appropriate manner. However, the preparation for indirect restorations poses both biological and technical operative challenges.³ The main biological problem is the potential violation of the biological width, which typically requires a minimum distance of 3mm to be maintained between the restorative margins and the alveolar crest to prevent detrimental effects on the surrounding soft and hard tissues.⁴ Technical challenges that arise include

difficulties in tooth preparation, impression taking, adhesive cementation and finishing and polishing the margins, as well as difficulty in placing a rubber dam.³

Historically, the recommended procedures to expose the deeper margins located below the CEJ include clinical crown lengthening or orthodontic extrusion.⁴ However, in private clinical practice it is often not possible or viable to refer the patient for these procedures due to patient unwillingness to accept invasive surgical procedures, or time constraints requiring multiple appointments.³ They are also expensive, and can significantly increase overall treatment costs.⁴ In addition, they generally require the services of specialist clinicians and are not readily available to the broad community of patients. In 1998, Dietsci and Spreafico introduced the cervical margin relocation technique (CMR), also known as the deep margin elevation technique.⁵ This technique involves the placement of composite material in the deepest portions of the proximal areas to reposition the margin supragingivally, and aims to improve impression-taking, rubber dam isolation and adhesive cementation.^{4,6}

A recent systematic review by Juloski, Koken and Ferrari (2018) revealed that the success of this technique depends on several factors, including the marginal quality of the adhesively bonded restoration, fracture behaviour of the treated posterior teeth, bond strength, material choice, application technique and treatment of the CMR prior to bonding of the indirect adhesive restoration. In a controlled study conducted by Ferrari et al. the effect of CMR on periodontal health was tested.^{3,4} After a one-year follow-up, despite a 100% survival rate and no bone loss detected radiographically, the study found that 53% of the samples had bleeding on probing, which indicates an uncontrolled inflammatory process, and may compromise the success of CMR which depends on the absence of bleeding on probing and gingival inflammation.⁴ This procedure is just one of the many examples where clinicians may have to decide whether they can clinically and ethically justify providing “a compromised treatment option to patients in need, but who cannot afford the “ideal intervention”. It now serves as the background for the ensuing legal and ethical discussion.

Legal framework

The National Patient’s Rights Charter (Booklet 3 of the HPCSA Guidelines)⁷ stipulates that “everyone has the right to access health care services that include –

- a. **receiving timely emergency care** at any health care facility that is open, regardless of their ability to pay;
- b. **treatment and rehabilitation** that has been made known to them in a manner that allows them to understand such treatment and the consequences thereof;
- c. **provision of special needs** to those who fall into the category of vulnerable patients;
- d. **counselling** without discrimination, coercion or violence;

Authors’ information

1. Leanne M Sykes, BSc, BDS, MDent, IRENSA, Dip Forensic Path, Dip ESMEA, FCD (Pros), Head of Department of Prosthodontics, University of Pretoria, South Africa
ORCID: 0000-0002-2002-6238
2. Jurie Kok, BChD (UP)
3. Portia T Nethononda, BSc, BDS, PDD (Clinical), MChD (Pros), Department of Prosthodontics, School of Dentistry, Faculty of Health Sciences, University of Pretoria, South Africa

Corresponding author

Name: Prof LM Sykes
Email: Leanne.sykes@up.ac.za

Author’s contribution

- | | |
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| 1. LM Sykes, primary author | 80% |
| 2. J Kok | 10% |
| 3. P Nethononda | 10% |

- e. **palliative care** that is affordable and effective in cases of incurable or terminal illness;
- f. **a positive disposition** displayed by health care providers that demonstrates courtesy, human dignity, patience, empathy and tolerance;
- g. **health information** that includes information on the availability of health services and how best to use these in a language or manner that is understood by the patient;
- h. **informed consent** wherein they have a right to be given full and accurate information about the nature of their illness, diagnostic procedures, proposed treatment, risks associated with this, time and the costs involved, and the consequences of no treatment.⁶

Clinical and ethical factors to consider

In the above scenario, the aim is to save the tooth in a situation where either the patient cannot afford the ideal treatment, has no access to it or the practitioner is not skilled enough in this field to carry it out (In the case of the latter, their first obligation would be to refer the patient to an appropriate colleague).

Can the dentist justify offering a compromised treatment? To answer this, they will need to consider and debate a number of pertinent questions including the following:

1. What is the short, medium and long-term prognosis for the tooth if NO treatment is done, and how will that affect the rest of the dentition and oral health?
2. What is the short, medium and long-term prognosis for the tooth if the compromised treatment is carried out?
3. Will the treatment affect the surrounding teeth and gingiva? If so, how?
4. Is the alternative treatment reversible should the patient later be able to afford a better modality?
5. What is the cost in terms of time and money as opposed to the ideal option?
6. Is the patient aware that this is not ideal and have they been informed of all the risks, benefits, time and financial implications and possibility of failure?
7. If treatment fails what will happen to the tooth? Could the tooth be restored or replaced and, if so, how and at what cost? In addition, who will carry these costs?. The dentist cannot be expected to provide additional services free of charge, and so patients will be liable. They should understand, accept and agree to these provisos.
8. What are the requirements with regard to maintenance and subsequent clinical upkeep of the tooth?
9. Is the proposed option defensible from a scientific, evidence-based, clinical standpoint?
10. What is the reported survival as well as success rate of the option?
11. What should be considered as acceptable survival and success rates?
12. Does the treatment comply with principles of “appropriatech”? Owen defined this as “using appropriate technology (both materials and methods) to provide cost-effective treatment without sacrificing biofunctional and prosthodontic principles”.
13. Have all the available treatment options been conveyed to the patient and, if not, does this infringe on the patient’s right to choose? In other words, is the clinician sure they are not behaving in a paternalistic manner in which they restrict the freedom or autonomy of their patients “for their supposed wellbeing or the greater good”.⁸
14. Would the treatment plan and procedure pass the “reasonable dentist rule” if placed under scrutiny by colleagues?

Guiding principles

These principles are based on the guidelines set out by Beauchamps and Childress in 2001.⁹

1. **Beneficence** – what is in the patient’s best interest? It is a reality in SA that not everyone can afford the ideal treatment, but they do deserve some form of care. The dentist should try by all means to save their teeth if that is their wish. If this means offering an inferior, nondamaging and suitable alternative, then we should feel comfortable to do so.
2. **Nonmaleficence** – “first do no harm” or try remove harm. If the intervention may cause harm it should not be considered; however, if inactivity will lead to tooth loss then the dentist is justified in trying this technique.
3. **Patient autonomy** – do they understand all of the above? The patient will be the one who must make the final decision, based on understanding and the professional advice of their doctor.
4. **Informed consent** – do they voluntarily agree to the treatment?

Once the dentist has completed a similar full and unbiased assessment of the patient’s situation and needs, are confident they can clinically and ethically justify the proposed treatment, and believe it to be both beneficial and appropriate, then they should feel free to proceed. However, to safeguard themselves against possible repercussions or litigation from either the patient or a colleague they will be wise to take some necessary precautions. They should document the condition as it was at the time of initial assessment with good quality intra-oral photographs, relevant radiographs, full mouth dental, occlusal and periodontal charting and perhaps also study models. The patient should be aware that these diagnostic aids all carry a cost and should be willing to pay for these and their initial consultation. The records should also detail all verbal conversations, include a written treatment plan, and have this dated and signed by the patient before they embark on any clinical work.

CONCLUSION

In conclusion, a guiding rule to follow in life is “if you are going to do it, do it right or not at all”. However, within the realities and limitations of a dental practice, what is “ideal” or considered “right” is not always possible due to physical, financial or psychosocial constraints. In that case the best advice would be to place the patient’s best interest and wellbeing first and then carry out work in the least destructive and most appropriate and ethically defensible manner possible. At the same time, to always work according to the best of their abilities within the limitations of what is available, affordable and possible in any given situation.

REFERENCES

1. Clark D, Levin L (2019). In the Dental Implant era, why do we still bother saving teeth? *J Endodontics*. 45(12); S57-S65
2. Owen PC (2004). Appropriatech: prosthodontics for the many, not just the few. *Int J Prosthodont*. 17(3);261-262
3. Juloski J, Koken S, Ferrari M (2018). Cervical margin relocation in indirect adhesive restorations: a literature review. *J Prosthodontic Research*, 273-280
4. Ferrari M, Koken S, Grandini S et al (2018). Influence of cervical margin relocation technique on periodontal health: 12-month results of a controlled trial. *J Dentistry* 70-76
5. Dietschi D, Spreafico R (1998). Current clinical concepts for adhesive cementation of tooth-colored posterior restorations. *Practical Period Aesthetic dentistry*, 10 (1998) pp 47-54
6. Alhumaidan G, Raghad A, Al Asmari D, Alenezi A (2022). Clinical performance of indirect restorations with cervical margin relocation in posterior teeth, A systematic review. *Dentistry review*. Accessed at: <https://doi.org/10.1016/j.dentre.2022.100034>; Accessed on 20-06-2023. Pages 1-5
7. HPCSA Guidelines, Booklet 3. The National Patient’s Rights Charter. Page 2-3 Accessed at: <http://www.hpcsa.co.za>; Accessed on: 20-06-2023
8. Dworkin G, Zalta EN (2016). *Stanford encyclopaedia of Philosophy*. Accessed at: <https://plato.stanford.edu/archives/fall2016/entries/paternalism/>. Accessed on: 27-06-2023
9. Beauchamps TI, Childress JF (2001). *Principles of Biomedical Ethics*. New York, Oxford University Press