

Dental Negligence During Prosthetic Treatment

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Abstract

Dentists treat patients intending to restore the patient's health. However adverse effects may occur despite all their efforts, some of which could have otherwise been prevented, hence amounting to malpractice. Any patient coming to the dental office needs to be diagnosed accurately first to formulate the correct treatment plan. It is the sole responsibility of the clinician to make the patient aware of the treatment needs and difficulties during and post the procedures. A thorough diagnosis with a proper record of the case history & consent should be obtained. As the dental malpractice lawsuits are extremely, expensive and emotionally draining for the clinician.

Keywords: Dental Negligence, prosthetic treatment, diagnosis.

Introduction

Dental malpractice is a form of medical malpractice focussing on injuries suffered during dental visits which range from obvious trauma to dental or oral tissues, negligence by the treating dentist, or misconduct like abuse or molestation of sedated patients. Often dental patients have an underlying systemic disease and are on multiple drugs; lack of proper history taking by the dentist or ignorance regarding the drug interactions or medical complications, even administration of correct dental treatment may still lead to medical emergencies and can be designated as dental malpractice. With advancements in oral and dental treatment modalities, many issues regarding the wrong diagnosis, procedural delays in treatment, improper management and failure in follow-ups have cropped up, comprising dental

practice.^{1,2} Fixed partial dentures or crown and bridge are responsible for one of the greatest proportions of negligence claims, damages & legal costs against dentists.

Impression Making: All prosthetic procedures start with impression making and judicious selection of the impression material is the key. Depending upon the accuracy of the structures needed to be recorded the impression material is selected. Here an in-depth knowledge regarding the manipulation and setting times of the various impression materials used is essential. Hypersensitivity to impression materials also needs to be noted in the history taking and then substituted. Any mistake in impression making leads to significant problems in the prosthesis thereby amounting to negligence and malpractice which can be easily prevented by using correct techniques and expertise.^{3,4,5}

Diagnosis & Treatment Planning: Prosthodontic treatment requires to thoroughly evaluate every detail from initial patient interaction to the various treatment phases to follow-up & post-treatment care. Problems during treatment could be due to errors during history taking and overlooking of the initial examination.⁶

Articulated casts during the planning of fixed prosthodontic treatment are essential as they provide

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static and dynamic relationships of the teeth. Unmounted casts can give information as to the alignment of the individual arches without providing information about the functional relationships. The diagnostic casts, when attached to an articulator, simulates the jaw movement.^{7,8}

Diagnostic Cast Modification: One advantage of having accurately articulated diagnostic casts is that proposed treatment procedures can be rehearsed on the stone cast irreversible changes in the diagnostic procedures are essential when attempting to solve complicated problems.⁹ Even the most experienced clinician may have difficulty deciding between different treatment plans.

Diagnostic cast modifications include the following:

1. Changing arch relationship, preparatory to orthognathic procedures when surgical correction of skeletal jaw discrepancy is to be performed.
2. Changing the tooth position before orthodontic procedures.
3. Modifying the occlusal scheme before attempting any selective occlusal adjustment.
4. Trial tooth preparation and waxing before fixed restorative procedures.¹⁰

On many occasions, it will be necessary to combine two or more of these options. Most treatment planning decisions—whether preparation design, choice of abutment teeth, selection of an optimum path of withdrawal of a fixed partial denture, or deciding to treat a patient with a fixed partial denture or a removable partial denture can be simplified by adhering to these diagnostic techniques.¹¹

A logical and systematic approach to diagnosis helps the operator avoid mistakes. Often a completely edentulous patient presents with a resorbed residual alveolar ridge incapable of providing retention for complete denture prosthesis and pre-prosthetic surgery is required.¹² A good treatment plan keeps the patient informed about the conditions, extent, time and treatment costs along with the home care and professional follow-up to achieve success.

Correction of existing disease & Prevention of future disease: Determining and reduction of the initiating factors with the improvement of the resistive factors are crucial to arrest the disease process. Like oral hygiene, instruction tends to improve gingival & periodontal health. Treatment should be directed to correct impaired function primary of mastication, speech and esthetics.¹³ Treatment should be planned in such a manner that it shouldn't compromise unwise attempts to improve appearance. They should be advised about the possible adverse consequences of treatment.

Selection of Abutment Teeth: Replacement of missing tooth is done by fixed partial dentures with the use of abutment tooth unless bone support is weakened by periodontal disease.¹⁴

Cantilever fixed partial dentures have the unilateral side of pontic attached to a retainer. Here forces are tolerated when periodontal structures are directed in the long axes of the teeth. Cantilevers induces lateral forces on the supporting structures leading to tipping rotation or drifting of the abutment.

Assessment of abutment teeth is important before the tooth preparation. Radiographs along with thermal and electrical stimulation of tooth should be done to access the pulpal health. Teeth, when pulpal health is compromised, should be treated endodontically before the denture.¹²

Endodontically treated abutments with post and core have better retention and strength. Failures do occur, mostly on teeth which have shorter roots or less coronal tooth structure.¹³

Unrestored abutments: are the one ideal for the abutment. It is to be conservatively made to obtain good retention & aesthetics. The margins can be made which should contain restorations.

Post- insertion problems: The clinical procedures involved in fabrication and insertion can cause irreversible pulpal damage. Correct techniques should be followed for reduction of tooth, temporary fabrication of restorations, with proper cementation of the final restoration along with the post-insertion care.¹⁴

Table 1. Symptoms dental negligence during prosthetic treatment

Thermal Sensitivity	Pulpal discomfort from temperature change is frequently encountered following cementation of fixed partial dentures (1) The temporary restoration which don't cover all prepared tooth surfaces, (2) A loose temporary restoration that allows seepage, of oral fluids over the prepared surfaces, (3) A temporary restoration that places excessive occlusal forces on the prepared teeth. ¹⁵
Discomfort during Function	Pains during chewing due to premature centric or excessive contact during eccentric mandibular movement
Gingival Inflammation	Occurs post cementation of prosthesis. This can occur as a result of faulty cervical contour, marginal fit, or embrasure form. Even inadequate oral hygiene aids could cause food retention & inflammation. ¹⁶
Retention of Food	This occurs usually around pontics and connectors. This cannot be completely avoided but proper oral hygiene measures help in removing the food.
Trauma to the cheek or Tongue	Cheek and tongue are the common areas of trauma due to poorly polished portions of the prosthesis. Pontics when placed in areas in which the tongue and cheek were previously not restricted or when flanges of dentures are sharp or cusp-to-cusp or ends -lo-end occlusal relationship without normal horizontal overlap is present. ¹⁷
Sensitivity of Sweets	This occurs when the prepared tooth is not completely covered by the final prosthesis. Sweet sensitivity occurs when the luting agent has undergone dissolution or if the abutment retainer is loose.
Tooth Mobility	Occurs due to poor occlusal relationships, overloading of prosthesis affecting the periodontal ligament and supporting bone causing excessive movement. ¹⁸
Neuromuscular Discomfort	Pain in the temporomandibular joint & associated muscles occurs due to improper occlusion created by a prosthesis. The discomfort caused by occlusal contact on the prosthesis, causing the patient to habitually brings other teeth into a different position. The new mandibular position can create neuromuscular pain in such patients as a result of positional changes in the ligaments and muscles associated with the temporomandibular joint. It must be recognized that other factors may cause pain. ¹⁹
Nonspecific Complaints	Like feels different or slightly uncomfortable this is due to an additional force applied to the abutment teeth, a slight occlusal discrepancy, or simply the presence of an artificial tooth. ²⁰ Esthetics of the prosthesis, Not Cost-effective, Candida infection due to denture stomatitis, improper vertical dimensions causing discomfort with clicking noise, or an unaesthetic appearance. Use of a suction cup in the maxillary denture bearing surface leads to unequal pressure on the hard palate leading to ulceration or even perforation of the palate. ²¹

Conclusion

No denture can adequately replace the natural teeth in totality. It can serve in restoring some function and aesthetics but prosthesis however good it maybe does not always satisfy the patient. Moreover, a dentist is not always liable to be sued for malpractice as dental prosthesis involves a lot of lab work which is done by dental technicians and the dentist cannot be only held responsible for the result. Thus, adhering to the most conservative procedure that is in the patient's best interest.

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