

Comparing studies that measure survival is a valid means to compare endodontic therapy and implant treatment. A recent major literature review conducted by the Academy of Osseointegration found equal survival rates of single tooth implants and restored endodontically treated teeth [11]. These results are consistent with the only study to date directly comparing single tooth implants and restored endodontically treated teeth [15]. Both therapies had overall survival rates of 94 percent, thus providing predictable outcomes. Therefore, the decision to treat a tooth endodontically or place a single-tooth implant should be based on other criteria including restorability of the tooth, quality of bone, esthetic demands, cost-benefit ratio and systemic factors.

Along with overall survival rates of the therapy provided, treatment planning must also consider risk factors. For implant treatment, risk factors include: smoking, diabetes, decreased estrogen levels in postmenopausal women, bone quantity and quality, and use of IV bisphosphonates [17-24]. Risk factors for nonsurgical endodontic therapy include: diabetes, apical periodontitis and inadequate coronal restoration [25-28].

Ethics of Clinical Practice

The dental profession acknowledges the special position of trust given by society, and reciprocates with a promise of adherence to high ethical and clinical standards. These standards, set forth in the American Dental Association's *Principles of Ethics and Code of Professional Conduct*, have the benefit of the patient as their primary goal [9].

One of the key elements of this ethical code is patient autonomy and respect, as exemplified by the need to involve patients in the decision making process during treatment planning, with due consideration to the patient's needs, desires and abilities [9]. Treatment provided that does not rest on informed consent, is not based upon the best evidence, and is not in the best interest of the patient, is unethical. Inappropriate treatment, such as: performing endodontic therapy on nonrestorable or periodontally hopeless teeth; or placing single-tooth implants when the natural tooth could predictably be retained, would also be considered unethical. Failure to adhere to these principles not only violates the trust placed in the dental profession, but leaves the dentist vulnerable to litigation. Another significant component of the code of professional conduct involves appropriate consultation. All dentists, specialists and generalists alike, are expected to practice within a clinical standard of care defined as 'prudent and competent' [29]. Whenever patient welfare would be safeguarded by utilizing the knowledge, skills and experience of a dental specialist, consultation is appropriate [9].

Conclusions

1. Clinical treatment decisions regarding endodontic or implant therapy must always be made in the best interest of the patient.
2. These treatment decisions should always be based on the best, most current evidence.
3. The decision to treat a tooth endodontically or replace it with an implant must be based on factors other than treatment outcomes.
4. Practitioners are ethically bound to inform patients of all reasonable treatment options.
5. The standard of care must be applied equally to all practitioners, generalist and specialist alike. Due consideration should be given to patient referral for the evaluation and advice of specialists in retaining natural teeth.
6. Endodontic treatment is a most predictable procedure when the clinician accomplishes correct diagnosis, appropriate treatment planning, thorough instrumentation, complete obturation with coronal restoration, and compassionate and effective care.