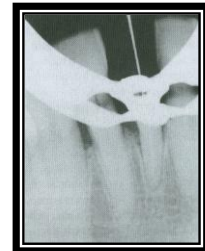


Single-visit endodontics

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Initiating and completing an endodontic treatment in one appointment has always been surrounded by controversy.

In 1982, a survey revealed that 877 of endodontists did not believe that most necrotic teeth could be treated successfully in one visit. In addition, most endodontists thought that performing treatment in this fashion would cause more post-operative pain than if performed in multiple appointments. However, growing number dentists are practicing more and more single-visit endodontics. New technology and research is helping clinicians avoid multiple visits and long, drawn out endodontic treatment. There is widespread acceptance of single-visit endodontics for vital cases and the trend for non-vital single visits is becoming more widely accepted. In 1960s, such treatment was considered by most to be below the standard of care. At that time there was neither the research nor the technology to support single visits for non-vital cases. Times have changed and there are new evidence non-vital cases can be treated with quality root canal treatment in single visits in most cases.



Advantages of single-visit endodontics:

*There are numerous advantages to completing root canal therapy in one appointment:

1- The clinician has the most intimate awareness of the canal anatomy immediately following instrumentation.

2- No risk of losing important landmarks.

3- The canal is never cleaner than immediately after proper instrumentation.

4- No risk of flare-up induced by leakage of the temporary seal (because obturation is completed).

5- Teeth are ready sooner for final restoration, diminishing the risk of a fracture necessitating extraction.

6- Patient's pre-appointment anxiety and post-operative discomfort are limited to one episode.

7- Time is saved for the patient and for the practitioner since the treatment is completed in one visit.

* Exceptions to single-visit endodontics:

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Although we encourage single visits it certainly doesn't mean we treat all cases that way. Here are our exceptions:

- 1- Cellulitis.
- 2- Acute apical abscess requiring incision and drainage.
- 3- Severe pain when the tooth is lightly touched.
- 4- A weeping canal that can not be dried.
- 5- Difficult cases that extend beyond our allotted time and the patient's tolerance.
- 6- Possible increased stress on TMJ musculature or increased psychological stress on patient.

If it is discovered during the preparation that much over instrumentation has occurred by error, the tooth should not be completed in one appointment.

An accurate working length is determined and verified by radiograph and / or apex locator. This is an extremely important step in any endodontic case; but it has special significance in the single – visit treatment, when over instrumentation must be avoided. Anterior teeth, which are easier to radiograph, offer a better chance for one – visit success than do molar teeth. The canal is prepared to a maximal size consistent with retaining the original canal shape. This width of enlargement is necessary to ensure the removal of the predentin layer and any residual soft tissue tags that might decrease the chance for optimal seal.

***The economics of single-visit endodontics:**

The financial benefit of a single-visit root canal treatment is significant. A profitable single appointment is reduced dramatically with two visits and becomes a loss when stretched to three. Patients, in turn, also benefit greatly lost hours of work and need less travel are avoided. Without question, Patients prefer single appointments.

***The basis of single-visit endodontics:**

We were told bacteria cause pulpal and periapical problems and treatment required mechanical and chemical disinfection of the root canals- both for vital and non-vital cases. Whether the objective could, should be obtained in single or multiple visits was open to debate. Some believe non vital cases require a medication in the canal between appointments to kill most bacteria, including those in dentin tubules. They correctly believe canal disinfection is important but their expectations of great benefits from intracanal medicaments and second appointments may be exaggerated. There are no assurances the medications will kill bacteria in dentin tubules or bacteria embedded in tissue (inadequate cleaning). For medication to be

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effective they must make direct contact with bacteria-an unlikely event for those sheltered in tubules and tissue. Also at risk is the increased likelihood of bacteria entering the canal through temporary barriers between visits.

Therefore, one must make every effort for thorough instrumentation and irrigation to remove as much of the bacteria and tissue as possible in the main canal.

***Single-visit endodontics with confidence:**

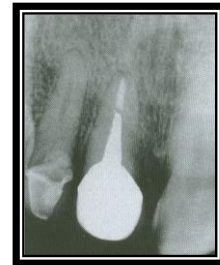
To be comfortable with single visit root canal treatments we should be confident that:

- 1- Single visits have scientific support.
- 2- Single visits are routine for vital cases.
- 3- The essence of single visits is a clean, disinfected canal without compromises.
- 4- More than one visit will not result in a cleaner canal.
- 5- Healing is the same for vital and non-vital cases; success depends on the quality of the root canal treatment and not the number of treatment visits.

We believe a major obstacle of single visit root canal treatment is an unfounded fear it causes more postoperative pain than multiple visits. This is a legitimate concern to those who have to deal with pain and patients who are reluctant to accept it. With this in mind, we strongly suggest routinely warning patient's post-treatment pain is not unusual and reassuring them it is not a forecaster of failure. Telling patients what to do if pain occurs is mandatory. The likelihood of pain should be mentioned even for easy cases with beautiful x-ray.



Patients will tolerate pain much better if they are warned ahead of time. One predictor of pain we found rather consistently is in patients who have periradicular pain before treatment. These patients are most likely to have the periradicular pain continue after treatment.



If single visits resulted in more post-operative pain than multiple appointments, we would not be doing them.

But this is certainly not the case. It's clear that multiple visits have not reduced the incidence of pain. We could find no consistent or irrefutable evidence that a single visit, quality root canal treatment of non-vital cases increases the incidence of post operative pain. In fact, the evidence points in the direction of less pain with single visits. A

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single treatment gives pain a single opportunity to occur. Multiple visits increase the odds.

***Conclusions:**

In recent years, single-visit endodontic therapy has gained popularity. The popularity of single-visit treatment can be credited to favorable reports which showed no difference in treatment complications or success rates when compared with teeth treated in multiple visits.

However, because the single-visit approach in treatment cases may be difficult and time consuming, careful case selection and the clinician's expertise are most important factors in achieving successful clinical outcomes.