Procedural Accidents: An Online Study Guide

Abstract
The Editorial Board of the Journal of Endodontics has developed a literature-based study guide of topical areas related to endodontics. This study guide is intended to give the reader a focused review of the essential endodontic literature and does not cite all possible articles related to each topic. Although citing all articles would be comprehensive, it would defeat the idea of a study guide. This section will cover procedural accidents, including perforation repairs, separated instrument, and accidents with irrigants and endodontic materials. (J Endod 2008;34:e65–e70)

Introduction
The delivery of high quality clinical care requires a thorough understanding of the endodontic literature. The Editorial Board of the Journal of Endodontics has developed this online study guide for endodontists and fellow clinicians interested in endodontics.

There are several potential applications for an online study guide. First, an online study guide permits clinicians to focus in on particular areas of endodontics where they can quickly review key papers devoted to one particular topic. For example, this particular study guide provides a summary of key papers in the area of procedural accidents, including perforation repairs, separated instrument, and accidents with irrigants and endodontic materials.

Second, a study guide permits speakers to efficiently review background material in preparation for future courses, lectures, or continuing educational events. Third, an online study guide permits students to review key papers in preparation for future examinations or for development of residency seminars. Fourth, an online study guide permits readers to quickly and efficiently access either the abstract or the entire paper cited in the Tables (see Discussion for details).

Methods
One potential problem in developing an online study guide was to provide a summary of major papers that contributed to a given topic area. The inclusion of all possible papers on a given topic would lead to an unwieldy collection that failed to clearly identify key papers in the area. Of course, exclusion of key papers is also problematic. To address this issue, the JOE Editorial Board developed the overall list of topics to be covered and then for each topic generated an initial tabulation of key historical and contemporary papers on that topic. This list was then sent to two outside reviewers who were both experienced educators and Diplomates of the American Board of Endodontics. These reviewers then recommended additions and deletions of papers to the proposed topic list.

To maintain currency, the JOE Editorial Board proposes to periodically update each topical study guide by using the same peer-reviewed process as described above.

Results
The results of the study guide (1–43) provide an overview of selected literature on procedural accidents, including perforation repairs, separated instrument, and accidents with irrigants and endodontic materials. This information is organized into Tables 1-3.

Discussion
The journey to clinical excellence requires not only outstanding clinical skills, but also that special knowledge that accrues from a study of the endodontic literature. The purpose of the JOE online study guide is to serve as one source for efficiently reviewing key papers that are organized by topic area and presented with the advantages of online Internet technology.

Although JOE readers are undoubtedly familiar with many aspects of the Internet, there are special features available at JOE online that provide particular advantages in their application for a study guide. For example, if this particular study guide is downloaded as a pdf, it provides a useful but static listing of the cited articles. On the other hand, if the reader navigates to the Table of Contents page for the Online Study Guide and then clicks on “Full Text” (Fig. 1), they will be taken to an HTML version of the Study Guide. This online version of the study guide has special capabilities including the fact that the references are hyperlinked. Thus, the reader can quickly obtain abstracts of nearly all cited papers and can review the entire paper of many of the cited papers with...
only a few clicks of their mouse (Fig. 2). Thus, combining a study guide with online capabilities provides particular benefits for efficiently reviewing key papers in the endodontic literature.

We hope that this Study Guide will prove useful to you as one source for developing a focused and special base of endodontic knowledge. As always, we are interested in your thoughts on this initiative and how the JOE can better serve you, our readers. Feel free to email us at JEndodontics@UTHSCSA.edu.

### TABLE 1. Perforation Repairs

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| 21.   | Crump MC, Natkin E.  
Relationship of broken root canal instruments to endodontic case prognosis: a clinical investigation.  
| 22.   | Fox J, Moodnik RM, Greenfield E, Atkinson JS.  
Filling root canals with files: radiographic evaluation of 304 cases.  
| 23.   | Frank AL.  
The dilemma of the fractured instrument.  
Rotary Ni-Ti Profile systems for preparing curved canals in resin blocks: influence of operator on instrument breakage.  
| 25.   | Hulsmann M, Schinkel I.  
Influence of several factors on the success or failure of removal of fractured instruments from the root canal.  
Evaluation of an ultrasonic technique to remove fractured rotary nickel-titanium endodontic instruments from root canals: clinical cases.  
| 27.   | Saunders JL, Eleazer PD, Zhang P, Michalek S.  
Effect of a separated instrument on bacterial penetration of obturated root canals.  
| 28.   | Souter N, Messer HH.  
Complications associated with fractured file removal using an ultrasonic technique.  
| 29.   | Spili P, Parashos P, Messer HH.  
The impact of instrument fracture on outcome of endodontic treatment.  
| 30.   | Iqbal MK, Rafailov H, Kratchman SI, Karabucak B.  
A comparison of three methods for preparing centered platforms around separated instruments in curved canals.  
| 31.   | Iqbal MK, Kohli MR, Kim JS.  
A retrospective clinical study of incidence of root canal instrument separation in an endodontics graduate program: a PennEndo database study.  
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