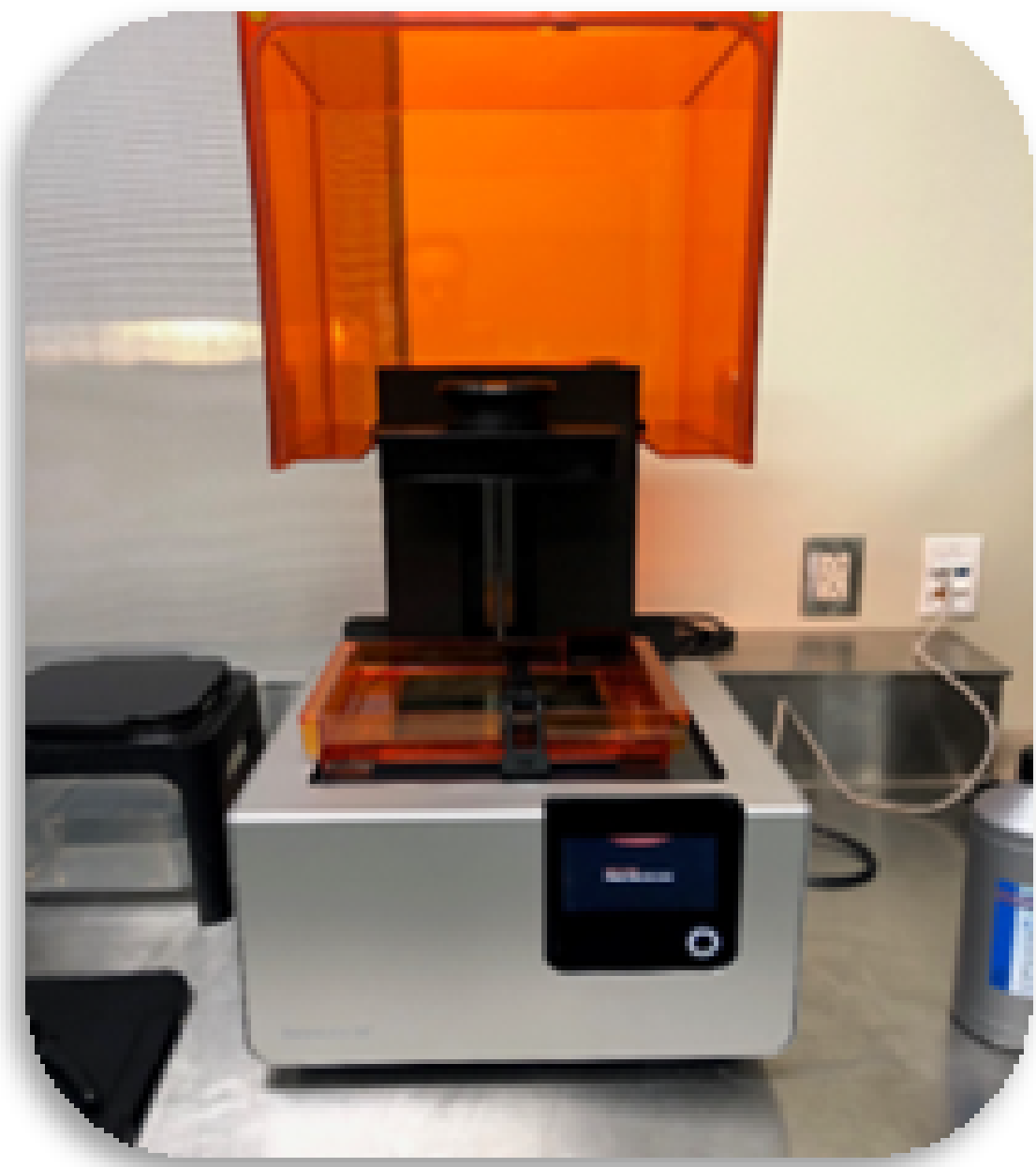


Introduction

The use of guided technology is emerging in surgical endodontics. 3-dimensionally–printed surgical guides (3DSGs) and dynamic navigation systems (DNS) are two of these guided techniques. While a guided protocol theoretically removes much of the "guesswork" associated with a surgical procedure, it remains unclear if endodontists today are aware of these novel approaches and if so, to what extent the technology is being incorporated into the standard endodontic practice. The purpose of this study was to assess the level of exposure to and incorporation of guided surgical techniques into the surgical practice of endodontists and endodontic residents.

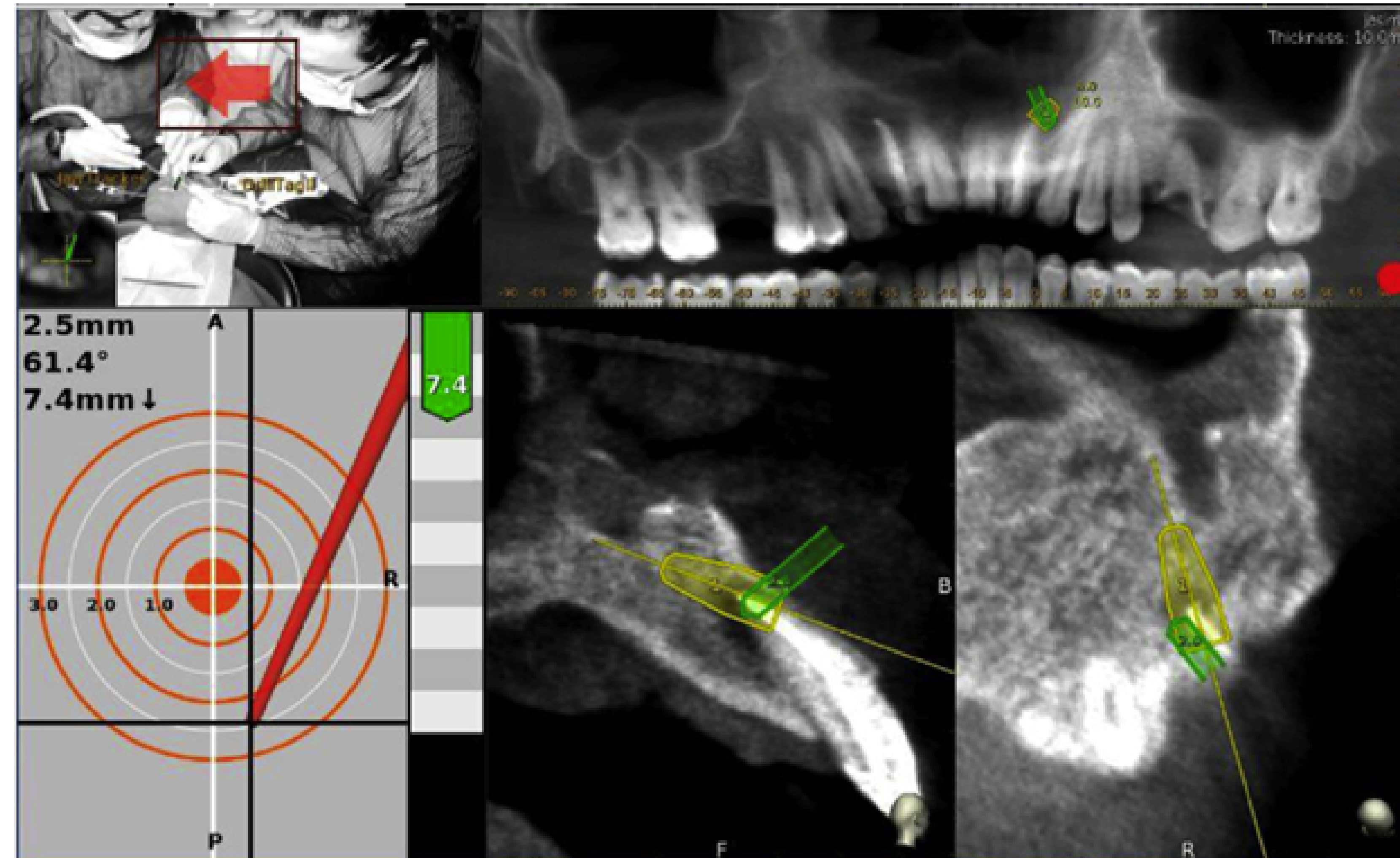
Methods

A 30-question web-based survey was distributed via email to 6,510 members of the American Association of Endodontists. Responses were collected over a period of two months and descriptive statistics were analyzed to discover trends in the endodontic community.



Results

	Private Practice (N=404)	Academia (N=107)
Surgery on palatal roots of maxillary molars	49% (17% only perform if accessible from the facial)	62% (11% only perform if accessible from the facial)
Treatment of choice for palatal roots of max molars	1) Perform second NS retreat 2) Refer for extraction 3) Perform root-end surgery	1) Perform root-end surgery 2) Perform second NS retreat 3) Refer for extraction
Surgery on mandibular second molars	27%	41%
Treatment of choice for mandibular second molars	1) Refer for extraction 2) Perform second NS retreat 3) Intentional replantation	1) Intentional replantation 2) Perform second NS retreat 3) Perform root-end surgery
Use 3DSGs	6% (54% use in EMS, 33% for locating calcified canals)	33% use 3D surgical guides 1% use dynamic navigation 3% use both systems 62% using no guided techniques
Use DNS	2% (33% use in EMS, 67% for locating calcified canals)	
Barriers to use of 3D surgical guides	1) Too expensive 2) Too much planning time 3) Technology too cumbersome	1) Too much planning time 2) Inadequate infrastructure 3) Technology too cumbersome
Barriers to use of dynamic navigation	1) Too expensive 2) Too much planning time 3) Technology too cumbersome	1) Technology too cumbersome 2) Too expensive 3) Adequate EMS protocol
Willing to spend on new technology	55% no more than \$5000 71% no more than \$10000	39% no more than \$5000 59% no more than \$10000



Con

Data was obtained from actively practicing endodontists (academic and non-academic) for an overall survey. 78% of members in the survey reported doing fewer root canal treatments and less than half performed root canal surgery on palatal roots of maxillary molars and mandibular second molars. The most common treatment for root canal surgery was performing a second non-surgical retreatreatment or extraction. Only 6% of endodontists currently report using guided endodontic surgery) and 77% of practicing endodontists are somewhat interested in guided endodontic technology for endodontic surgery. The survey report being unwilling to invest in new technology. Most endodontists teaching either guided endodontic surgery as a primary barrier reported not utilizing guided endodontic technology. The amount of planning time required for the technology.

Key

While the interest level in guided endodontic microsurgery has increased, it has not yet become mainstream practice.

Dis

The views of the author are those of the author and do not represent the views of, or endorsed by, the Department of the Army, the Department of the Navy, or the Federal endorsement of the Department of the Army.