american association of endodontists

Referral Patterns Survey Report

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Contents

SUMMARY

According to the 919 endodontists and general dentists participating in this survey, referrals from general dentists are a critical part of the business model for many, if not all, endodontists in private practice. There are considerable similarities between the preferences of general dentists and what endodontists believe they prefer, suggesting a close alignment and common understanding of how to leverage endodontic treatment to improve patient dental health.

To better understand the factors influencing when, how, and why general dentists decide to refer their patients, and to whom they refer, AAE commissioned two surveys conducted among general dentists, and endodontists. The purpose of each was to understand the exchange of patients from the perspective of each category of dentistry.

How Endodontists See Referrals

Referrals are Important

Endodontists report a mean of 1,930 and median 1,000 patients referred to them by general dentists in a typical year. For them, this is almost all—an average of 90%—of the root canals they typically perform with only 10% coming to their practices directly. Endodontists receive referrals on average from 20 to 30 general dentists.

Referrals are Very Dynamic

Because they are far outnumbered by general dentists, endodontists are naturally more likely to have at least one general dentist start referring to them (80%), than to have at least one stop referring patients to them (65%) over the past several years. They are less likely to report a stable annual volume of patient referrals than general dentists do, and the proportion whose patient volume is increasing is roughly equal to the number whose volume is decreasing.

Referrals are Important to their Practices

In one question, more than 40% reported that their patient volumes have been about the same, with the remainder split almost evenly between seeing an increase or decrease in patients. Even a small change in total referrals will impact patient volumes in an environment where overall patient volume is stable, but a majority have been seeing either growth or shrinkage over the past several years.

Why They are Referred

Endodontists rank the four most important factors in how GPs decide who they refer to:

1. Having performed previous work to their satisfaction
2. Outstanding skill and expertise to perform the treatment
3. Previous patients satisfied with their work
4. A calming, caring manner with patients

Other factors also rated as positive, but less important, include convenient office location and recognition of expertise by other general dentists.

What Kinds of Procedures are Referred to Them

The cases that are referred to endodontists are a mix, but they see them as less complicated than general dentists do, which makes sense given the differences between their training and experience with root canals. They characterize about 60% of these cases are either “moderately” or “not complicated.”

Endodontists rate the most useful practices or materials shared with referred patients are:

1. When the general dentist provides information about their personal characteristics such level of concern and care for patients
2. The general dentist reassures them that the endodontist will receive information in advance of the first appointment and be familiar with their case
3. Sharing information about their background/practice
4. Educational tools that explain procedure and varying degrees of complexity of root canal treatments

How They Believe General Dentists Prefer to Build Relationships

1. Sending reports and film to them in a timely manner following procedures
2. Referring patients back to GPs for restorative treatment
3. Answering questions about endo procedures, techniques, or materials
4. Being available for second opinions
5. Accommodating their patients to fit their personal schedule

This rank-order is similar to how general dentists rank them, although general dentists place less importance on one factor (availability for second opinions), and they rank two factors higher (accommodating patients to fit their schedule, and answering questions about procedures, techniques, or materials).

The highest proportions of endodontists believe that the single most important way to establish successful contact with GPs is:

1. Being recommended to them by respected colleagues/dental practice manager/owners
2. Visiting the office of a general dentist
3. Attending local dental society meetings

These constitute a large majority of the ways to establish contact, as only 30% indicated other approaches.

How General Dentists See Referrals

For general dentists, the issue feels somewhat less important. They each do a far smaller volume of referrals each year, about one per week. Consequently, their behavior patterns are somewhat more conservative since it's a small portion of their overall clinical work.

However, the market has definitely changed over time for the better for endodontic dentistry. The proportion of patients who need a root canal that are referred to them is 53% of the total with 47% kept in-house, a substantial increase from 43% referred to an endodontist and 57% kept in-house in 2012. This shift is less than a percentage point per year, but it is moving in the right direction.

Why General Dentists Refer

The way they categorize the cases they refer to endodontists and how this varies from how endodontists regard them suggests there is a mutual appreciation of the skill and training that endodontists bring to patients.

A slight majority of their total referred patient cases are classified as "very complicated," while only one-sixth are "not complicated." Consequently, once a general dentist has chosen an endodontist for referrals, they tend to stick with them.

About half base their decision to refer on how confident they feel in their ability to perform the procedure as the single most important reason. Far fewer indicate that having the equipment/technology needed, or the relationship they have with their patients.

In comparing responses between the two categories, when general dentists consider referring a patient, there are only a few areas where endodontists misread them. For one, they place much higher importance on patient clinical conditions than endodontists believe they do. For another, endodontists believe that complications due to pain/swelling and the personal characteristics of the patient are more important than general dentists say they are. One other interesting finding is that financial cost for the patient is far less important in the decision (something that both categories understand).

Referral Patterns are More Stable

General dentists report being very stable in their referral patterns—fewer than one-fifth each added or dropped an endodontist from their referrals within the past several years. They only refer to an average of about 2½ endodontists at any given point in time, and the average number of patients they refer to each comes out to only about 20 to 25 a year.

While it would be an exaggeration to say that referrals are not a big deal to them, it IS lower priority than how endodontists refer to it. The fact that only 15% refer to four or more endodontists suggests that they are careful to keep their referral network a small, manageable number.

When general dentists look back over their past body of work, they have rarely erred in hindsight. Only 10% say they have decided to perform a root canal when they should have referred instead somewhat or more frequently. Only 12% say they have referred a root canal treatment when they probably should have performed it instead, very frequently or extremely often. These relative outliers reinforce the impression we have of very stable practice patterns, with few individuals doing work they shouldn't, or regretting a decision to refer.

General Dentist Perceptions of Endodontists is Very Positive

More general dentists report an increase rather than a decrease in total patients referred, while about half report that their volume of referrals has stayed about the same over the past several years.

Although their perception is not as positive as it was in 2012, still 58% say they have an "extremely positive" and 34% a "very positive" view of endodontists.

At a more detailed level, there was very strong agreement, at least 4.5 on a 5-point scale, that:

1. Endodontists are their partners in delivering quality dental care
2. Their work is generally worth the cost
3. Once they have selected one, they tend to stick with them for future referrals
4. Endodontic treatment of a salvageable/ restorable tooth is an equal/preferable outcome to extraction with a dental implant

Two negative statements, that they do many of the same procedures as endodontists for less cost, and they can do many procedures that endodontists do as well as they do, had very low ratings, around 2.5 on the same scale. Where identical terms were used in past surveys, we find that the positive statement have slightly greater agreement today, up from an already high baseline.

How They Prefer to Build Relationships

Most important:

1. Sending reports/film in a timely manner following procedures
2. Referring patients back for restorative treatment
3. Accommodating patients in their schedule
4. Answering questions about endodontic procedures, techniques, or materials
5. A collaborative treatment plan

Least Important:

- Sharing tools the GP can use in practice
- Asking patient feedback on services
- Sending updates on new treatment alternatives/successful case images

How General Dentists Learn About Endodontists

The highest proportions of general dentists find these as the most effective ways to learn about endodontists in their area.

1. Recommendations by respected colleagues or dental practice's manager/owner
2. Study clubs, seminars, or CE opportunities hosted by endodontists
3. Endodontists visiting your office
4. Endodontists attending local dental society meetings
5. Letters and information sent by endodontists

Comparing this to endodontist responses to a similar question shows that general dentists are more split between methods of learning about endodontists—in a sense, "more is more" while there is a clearer consensus among endodontists as to what they believe works.

Recommendations and office visits are among the top approaches for both practice segments, but fewer general dentists rate local dental society meetings effective, and more of them regard study clubs, seminars, or CE opportunities as effective. Although they are not a majority, clearly general dentists appreciate any form of outreach, including less-direct letters and information.

General dentists feel reassurance most if:

1. The endodontist will be familiar and receive info in advance of the first appointment
2. Providing educational tools that explain the procedure/varying complexity of root canal treatments
3. Information about the endodontist's personal characteristics

It should be noted that testimonials from other patients and information about the endodontist's background and practice are rated much lower. There is clearly an upper limit to how much information endodontists need to provide to reassure patients.

Conclusions/Applications

There is a high correlation between how and why general dentists refer and how endodontists think they do. This relative lack of dissonance and steady progress in the share of eligible patients being referred over time reflects how AAE's efforts have shaped the market.

Of course, it is in the best interests of endodontists to be effective with their outreach and resources, including marketing collateral and education-focused approaches and materials. The volume of dentists who refer to them and they need to be recognized by supports a steady, systematic approach to practice marketing.

There is already a high correlation between the rankings and ratings of general dentists and endodontists to similar questions, so there is a strong understanding among successful endodontists regarding what general dentists need to make referral decisions. Disseminating information regarding the preferences and priorities of general dentists among younger practitioners and AAE members will help raise awareness among some practitioners who may be less active and effective in their general dentist outreach, without their even realizing it.

There has been a great deal of change in the practice of dentistry over the past several decades and there will probably be more change in the future. In this survey, larger group practices and newer endodontists reported more referrals. Those in smaller cities report fewer referrals, and there was substantial variation in a state-by-state analysis.

Geography has a significant impact on referral patterns, as one-third of general dentists report that their community has some or a substantial undersupply of endodontists, while half of endodontists believe there is an oversupply in their community. An underlying implication from many of the survey comments is that many general dentists might support the continued growth of the profession, while endodontists are fine with the number of practitioners today, at least where they work.

Projecting the future of referral patterns suggests that, despite the steady growth in referral volume to endodontists, changes in practice ownership will have some negative impact. Some see an increase in "superdentists" and DSO or group practices wanting to keep more of the work in-house as they add an endodontist to their practice or willingly make the tradeoff of greater revenue for taking on more difficult cases they would normally refer out.

Methodology

Two surveys were conducted in the period of December 4 through January 5.

- A personalized invitation for a survey of general dentists was sent on December 3, with reminder messages sent to deliverable non-respondents on December 9 and 15.
- The deadline for response was December 22, then extended to December 29 in the second reminder.
- A reminder was sent to those with incomplete surveys on December 10 to encourage them to complete it.
- A personalized invitation for a survey of endodontists was sent on December 4, with reminder messages sent to deliverable non-respondents on December 10 and 16.
- The deadline for response was also December 22, then extended to December 29 in the second reminder.
- A reminder was sent to those with incomplete surveys on December 10 to encourage them to complete it.
- The general dentist survey was administered to a database of 4,983 individuals, including 687 current members, 1,832 former members, 1,288 non-members in the file, and 1,176 subscribers.
  - Overall, 502 of these records were undeliverable and 89 individuals opted out of participation by using the unsubscribe link provided with each message.
  - This email campaign was complemented by a one-time, anonymous distribution of an invitation message to a list of general dentists by Sonendo. Their 58 responses are included in the results below.
  - Overall, a total of 338 responses were received, for a response rate of 7.7%.
  - By segment, the response rate was particularly high for the subscriber list (14.0%), but much lower for active (5.6%) and former AAE members (1.1%), and non-members on file (5.2%).

- The endodontist survey was administered to a database of 7,746 individuals including 4,915 active endodontist members, and 2,831 non-members.
  - The endodontist member lists included individuals who were coded as Endodontist or Internationally Trained Endodontist in the Practice Category field including life, active, and other members. It excluded faculty, and those whose Practice Setting was Retired or General Practitioner.
  - The endodontist non-member list included a larger initial file with less data coverage, then a second file of former members that had more demographic information.
  - Over the course of administration, 538 records were identified as undeliverable and 72 individuals opted out of participation, leaving a total of 7,136 sent.
  - Overall, a total of 581 individuals responded, an overall response rate of 8.1%.
  - Segmented by membership status, AAE members had a response rate of 11.0% while non-members had a response rate of 3.0%, calculated net of undeliverable and opted-out participants.
  - The completion rate was almost identical at 76% of general dentist and endodontists finishing the survey that they started. Our normal data handling consists of retaining data from incomplete surveys if enough variables were provided by respondents, so very few incomplete responses were discarded.

The survey follows the example of two surveys conducted previously by AAE in 2009 and 2012.

- These surveys had 972 and 776 respondents, respectively with reported response rates of 14% and 11%.
- This however seems to conflict with the fieldwork description in 2009 of the vendor sending to two lists from the USData list compiler and 48,000 subscriber names from the publisher of Dental Products Report, Dental Practice Report, and other print and online information sources.
- Knowing that compiled lists are very unresponsive, in this case roughly 1.0% in 2009, we elected to work solely with internally accessible contact data supplemented by a vendor's list.
- We also added the voice of endodontists to provide their perspective; given that AAE probably has "cornered the market" for outreach to endodontists, we believe those results are valid and fully representative of their practice specialty.

Findings

PROFILE

Professional Profile

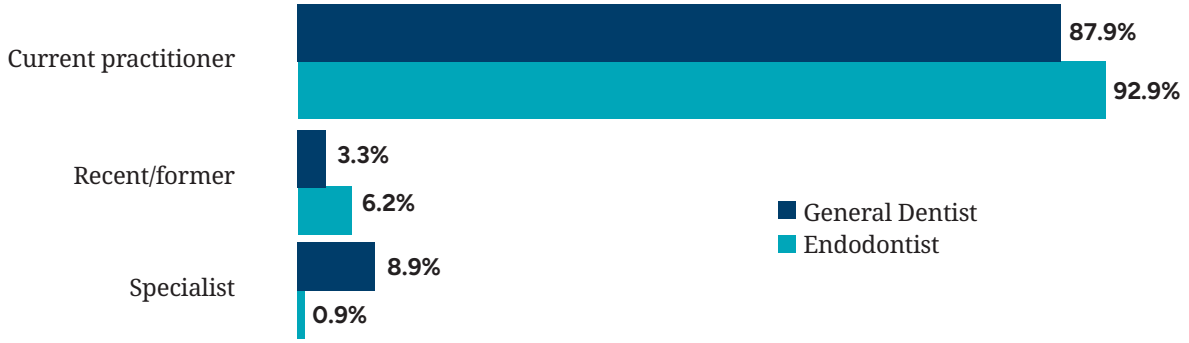
General Dentists

Almost all respondents (88%) from the general dentist samples indicated that they were currently a dentist in general practice.

- Another 9% are dental specialists, and 3% were recently a dentist in general practice but inactive today.
- The proportion who are currently general practice dentists is highest for the Sonendo names (95%) and nevermembers in the AAE file (93%), while fewer of those in the subscriber list (87%), and current (74%) and former members (84%) are general dentists.

Endodontists

A greater proportion (93%) of respondents for the endodontist survey indicate being endodontists, while 6% are former practitioners but inactive now, and 1% are another dental specialists or a general dentist.



These findings represent several anticipated characteristics of the files, as general dentists who have remained general dentists probably feel less affinity for AAE, and the AAE project drew more endodontists to take the survey. In general, results presented below are based on those who say they are current general dentists or endodontists for the two survey panels.

Practice Setting

General Dentists

Survey participants from the overall sample consisted of 46% solo practice, 42% member of a group practice, and others who did public practice such as government (6%), academic practice (3%), or who indicated other practice. Those who are currently in general practice shift slightly, with 47% solo, 44% group, 6% public, and 1% academic.

Endodontists

The overall sample consisted of 47% group and 45% solo practice, with few in public (3%), academic (1%) or other practice settings (4%). Those who are current in practice are almost identical, with the only variance being +1 percentage point working in solo practice (46%).

Gender

Both segments are comprised of at least two-thirds male practitioners.

- Females are more common among general dentists (33%) than endodontists (24%).
- Females are much younger with a mean age of 47.3 among endodontists and 44.1 among general dentists, compared to 53.3 and 50.6 years, respectively among males.

Total Dentists

Endodontists

Those 47% in group practices reported a mean of 7.5 and a median/midpoint of 3.0 total dentists.

- Given that 45% of participating practices each had 1 dentist, we calculate that the average respondent speaks for a practice with 4.25 total dentists (using the mean rather than median to take into account there are some practices with many more dentists).
- The distribution by range of dentists shows that only 10% of group practices have ten or more dentists, while 38% have four to nine, 45% have two to three, and 7% have none or one dentist, which stretches the definition of group practice to some degree.

Age

General Dentists

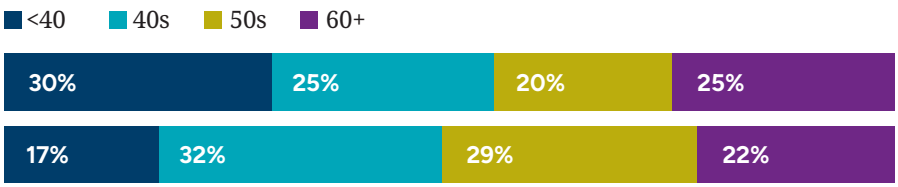
They are relatively young, with a mean age of 48.3 years and a median/midpoint of 47.5 years.

- Their distribution shows many younger than 40 (30%), while 25% each are in their 40s or are 60 or older, and 20% are in their 50s.
- Active practitioners who are at least 55 years of age anticipate retiring in a mean 4.9 and median 3 years.

Endodontists

Although the average age is similar for both categories, endodontists are a mean and median 2.5 years older, at 50.8 years and 50 years, respectively.

- Their distribution reflects a sharp shift away from those younger than 40 (17%) and toward those in their 40s (32%) or 50s (29%), while a similar proportion are 60 or older (22%).
- Active practitioners who are at least 55 years of age anticipate retiring in a mean 6.5 and median 5 years.



Professional History

General Dentists

They report a mean of 19.5 years and a median 16 years of professional experience.

- Their distribution shows a relatively even distribution among those with 0–4 years (16%) and 5–10 years (20%), while by decade fewer have 11–20 years (22%) or 21–30 years (17%), and a larger core with >30 years (24%).

Endodontists

They report a mean of 19.9 years and median of 19 years of professional experience.

- In contrast to general dentists, fewer have 0–4 years (12%), 5–10 years (13%), more have 11–20 years (31%), 21–30 years (25%), then fewer have >30 years (19%).

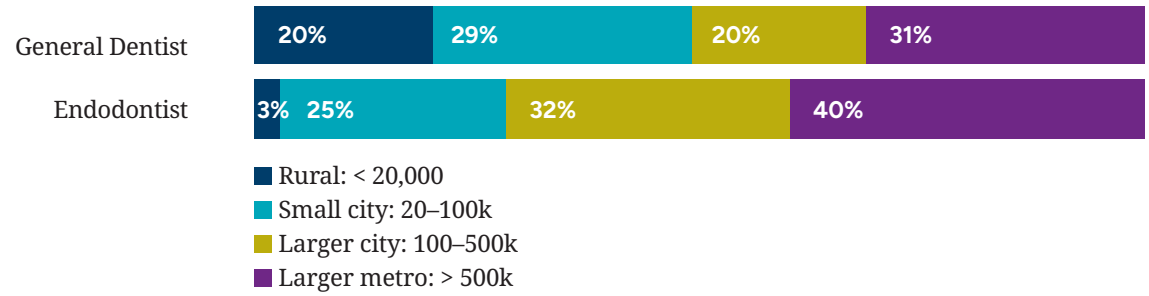
Demographics

General Dentists

Relatively few (20% each) report working in rural areas, defined as fewer than 20,000 people, or larger cities, with 100,000 to 500,000 people. More work in either a small city with 20,000-100,000 people (29%) or a larger metro area with more than 500,000 people (31%).

Endodontists

In contrast, endodontists need to work in areas with sufficient population density, so far more work in large metro areas (40%) or larger cities (32%); fewer work in small cities (25%) and particularly in rural areas (3%).



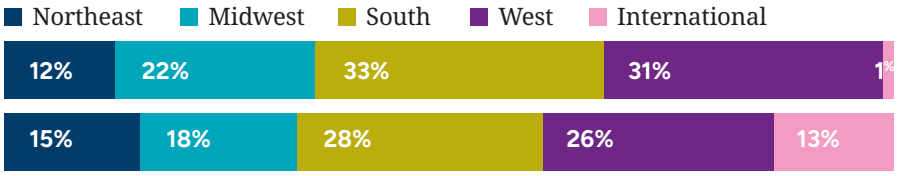
Geographic Location

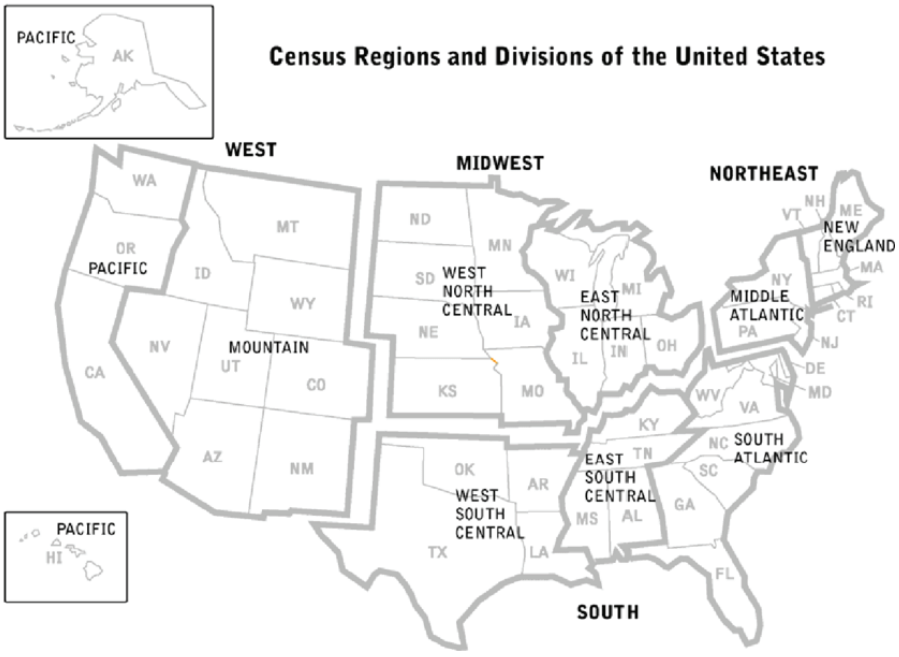
General Dentists

Compared to endodontists, far more general dentists are in the South (33%) and West Census Regions (31%), each +5 percentage points more. They are also more numerous in the Midwest (22%), trailing only in the Northeast (12%) with only 1% international.

Endodontists

Similar proportions are in the South (28%) and West (26%), while some are in the Midwest (18%), Northeast (15%), and international (13%). The map below helps to define the four Census Regions.





General Dentists

By state, the most common are California and Texas, each with at least twice as many respondents as North Carolina, Arizona, New York, and Illinois, and Minnesota.

Endodontists

By state, the most common are California, Texas, Florida, Illinois, New York, and Pennsylvania, which area also the top 6 in population.

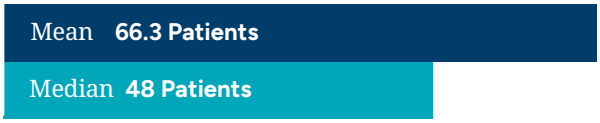
- However, the Northeast states are slightly underrepresented and Illinois is overrepresented.
- Arizona is also an outlier with the 7th most respondents but only 14th-highest population.
- Metro areas with the largest number of respondents are NYC (26), San Francisco Bay area (20), Chicago (19), Dallas-Ft Worth (16), San Diego (14), DC, Los Angeles, and Phoenix (13 each).

PATIENT VOLUMES AND REFERRAL PATTERNS

Estimated Patients Per Year Referred to Endodontic Practice by General Dentists

General Dentist

General dentists indicate a mean of 66.3 and median/midpoint of 48 patients per year referred to endodontists.



Total and Percent of Root Canal Patients Referred to you by General Dentists

Endodontist

Endodontists report that a mean of 1,930 patients a year are referred to their practice by general dentists. There is a wide variation in the total referred, so the median/midpoint is only 1,000 patients.

That the cumulative referrals that come to endodontists from general dentists comprises a mean of 90% and median of 95% of their total root canal patients.

- Note that we did not ask certain variables such as where other root canal patients come from, but direct patients and referrals from other specialists probably comprise the remainder of root canal volume.

Endodontist

As a thought experiment linking the results of the two surveys, which feature different populations that are rarely or ever connected to the specific respondents of the other survey, dividing the first two figures on this page implies that endodontists could receive their total patient volume from a minimum average of 21 to 29 general dentists (dividing the mean and median values of 1,930/66.3 or 1,000/48). The real figure will always be larger, since general dentists will refer to a variety of available endodontists.

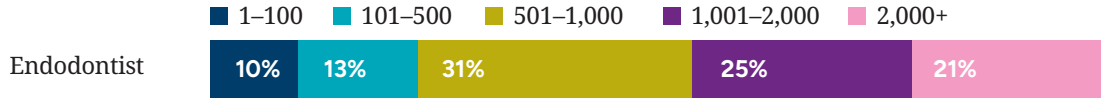
Linking this to the overall dentistry market may also be helpful.

- ADA Health Policy Institute (HPI Supply of Dentists-2024) estimates a population of 202,500 active dentists today, an increase of 24% from 163,400 in 2001.
- In 2024, there are 159,562 general practice dentists and 5,685 endodontists, with growth since 2001 or 22.0% and 41.5% (the latter far outpacing the 30.0% growth in other major specialties combined in the same period.
- Because of this growth in endodontists, the ratio of endodontists per general practice dentists has decreased about 13%, from 32.3:1 to 28.1:1 in the 23 years.
- However, the fact that the ratio of general dentists overall fits within our range of possible total general dentists referring to an endodontist is reassuring. There will be some statistical “wobble” here since some endodontists in group practices may be answering for their practice rather than just themselves but this is helpful context for the next set of findings.

Variances in Volume of Patient Referrals

Endodontists report a massive variance around the mean of 1,930 patients.

- As the chart below demonstrates, the distribution of patients being referred to them shows that volume is as low as 100 or fewer for 10% and 101–500 for 13%. Almost one-third report 501–1,000 patients a year (31%), while many report higher volumes of 1,001–2,000 (25%) or more than 2,000 (21%).
- The standard deviation is 3,234 patients, with a coefficient of variation that is more than 1.5x the actual mean of 1,930. This means that, although we can calculate averages, there are clusters of normal practice, and some outliers that tend to distort the statistics we use here to describe overall practices.
- Outliers include very high values, with the top ten responses ranging between 13,000 and 35,000 patients, and the next ten highest responses ranging between 8,500 and 11,000 patients. At the other extreme, there are 14 respondents who each indicate receiving 50 or fewer annually.



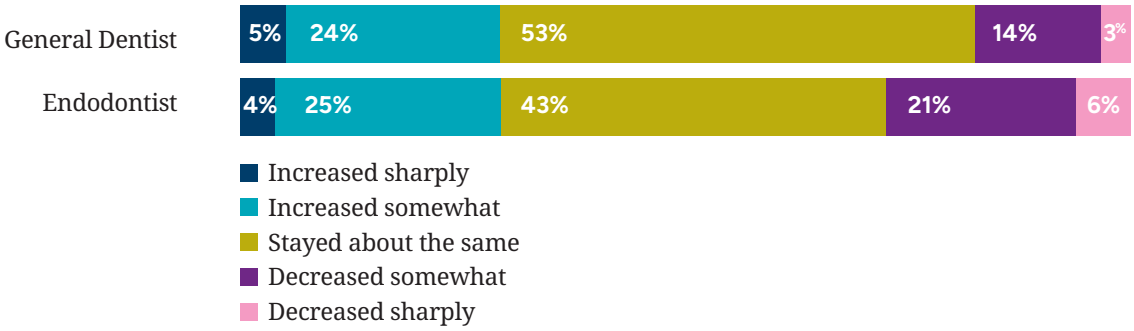
Estimated average patients referred by general dentists per year vary considerably by respondent characteristics.

- **Practice Type:** Group practice (2,892 mean/1,500 median) report far more than solo practice (1,137/1,000). Larger group practices have higher volumes, so those with 10+ dentists (5,111/1,500) have the most and those with 4–9 dentists (3,665/2,700) and 2-3 dentists (1,939/1,225) progressively fewer, but the medians imply this is not a linear relationship so that a practice with twice the number of dentists should expect close to twice the volume of patients.
- **Demographics:** The few in rural practices (2,283/1,000) report higher means compared to those in large metros (2,120/1,000) and smaller cities with 20–100k population (1,464/1,000), while those in larger cities with 100–500k population (2,053/1,150) have slightly higher median annual patient referrals.
- **Location:** U.S.-based (2,072/1,100) report far more referrals than international (1,076/500). Within the U.S., Midwestern practices (2,669/1,375) report highest mean/median annual referrals, followed by Northeast (2,397/1,300), Southern (1,855/1,080), and Western practices (1,739/1,000).
- **States:** Arizona (3,401/2,350) has the highest average volume, followed by Illinois (2,918/1,200), Florida (2,471/1,290), and New York (2,272/1,250). Although Texas (1,456/1,500) has the second-highest median, it also has a far lower mean. California (1,679/900) has a low median and highest number of survey participants. Phoenix and Chicago, of course, drive the high average volume reported by practices in their state.
- **Experience:** Years in practice shows a trend of higher mean volume early in practice, 0–4 years (2,328), and 5–10 years (2,369), then decreasing for those with 11–15 and 21–30 years (1,780 each), lowest for those with 16–20 years (1,588), and turning up again for those with 30+ years (1,985).

Changes in Volume Over Time

Respondents indicate similar patterns from referral and referred sides, with more stability among general dentists.

- **General Dentists:** When asked how the number of total referrals made to endodontists changed over the past several years, 53% report about the same, but more see an increase (29%) rather than a decrease (18%). Once again, those who say things somewhat changed far outnumber those who changed sharply, but the 11% more who report an increase rather than a decrease is a sharp contrast to the 2% net endodontists reporting an increase.
- **Endodontists:** When asked how the total referrals received from general dentists changed over the past several years, 44% reported that they stayed about the same, while 29% reported that it increased and 27% reported that it decreased. For both increases and decreased, those who see it changing somewhat far outnumber those who saw a sharp change.



Number of Practitioners Referred/Referring

- **General Dentists:** They report a median of referring to about 2.75 total endodontists. Only 15% report referring to only one endodontist, while a plurality refer to two (42%), some refer to three (25%), and only 15% refer to four or more.
- **Endodontists:** For a question that we would love a do-over, endodontists get referrals from many general dentists. While just 4% get referrals from five or fewer, 8% get referrals from six to ten, and the vast majority (88%) get referrals from more than 10.

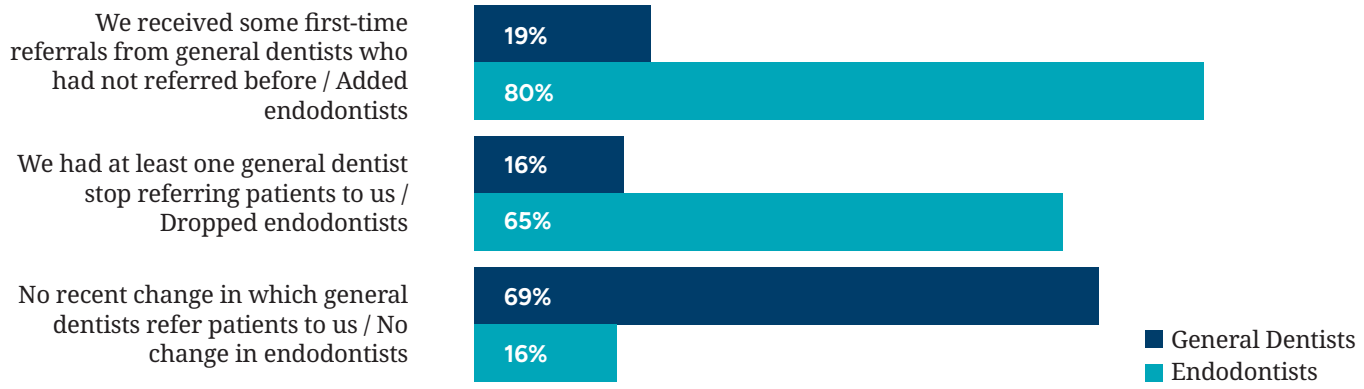
Added or Dropped Referrals

General Dentists

Generally, 69% report no change in the endodontists they refer to, while just 19% report they added at least one endodontist they refer to, and 16% dropped at least one endodontist over the past several years.

Endodontists

Most endodontists received some first-time referrals from general dentists (80%) while a majority but slightly fewer had at least one general dentist stop referring to them (65%). Only 16% reported no change.



Mean Proportion of Patients Referred

General Dentists

Respondents indicated what proportion of the patients they refer to endodontists fell into each of three categories, so that the total added to 100%.

- Following the detailed description below, they say that very complicated cases are a slight majority (53%) of what they refer, while moderately complicated cases (31%) and not complicated cases (16%) account for the remainder.

  Very complicated: High difficulty, 2nd/3rd molar root canal, curved roots, minimum pain/swelling

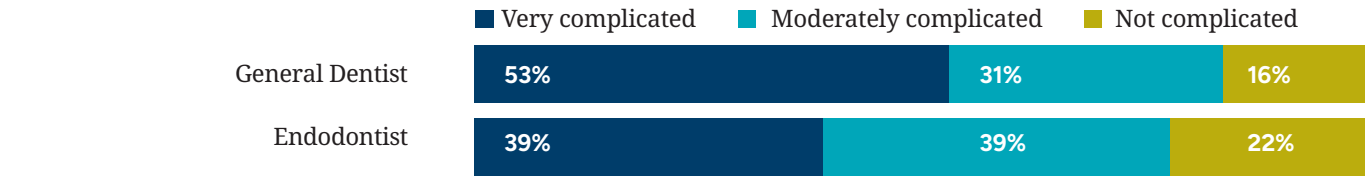
  Moderately complicated: Some difficulty, root canal on tooth with crown, minimum pain/swelling

  Not complicated: Minimal difficulty, non-molar root canal, minimum pain/swelling

Endodontists

In contrast, endodontists feel that an average of 39% each of the cases referred to them by general dentists are either very or moderately complicated, and the remaining 22% of cases are not complicated.

- This represents an interesting shift of 14% of their referred case load regarded by general dentists as very complicated but are regarded as something else by endodontists, with a roughly equal increase in the proportion of referrals regarded as moderately or not complicated.



PERCEPTIONS

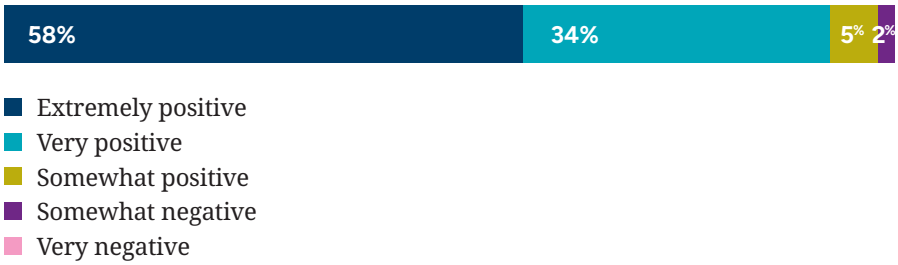
Overall Perception of Endodontists

Overall, general dentists have either an extremely (58%) or very positive (34%) perception of endodontists.

Only 5% have a somewhat positive and 2% a somewhat negative view of them. Using the average score to neatly compare perceptions, we find the following:

- **Slight relationship with actions taken:** a -3% lower score than average among those who have dropped an endodontist, compared to those who have added or report no change.
  - A -5% lower score among those who refer only 10–24% of their patients. If 1–10 patients are referred, the average score is -3% lower, while those with more than 75 patients referred are +2.4% higher.
  - Sharp differences among the few who indicate that their volume has sharply increased (+8.5%) or sharply decreased (-9%) over the past several years.
- **Small-sample outliers:** There are few respondents who are in academic practice but their 4.33, 3.5% lower than the overall average of 4.49. "Other" settings are diverse but their rating of 4.22 if even lower.
- **Characteristics with some variation:** Those who have >30 years or 0–4 years in practice have ratings +3% higher. There is no real regional pattern but by state, perceptions are lower in California (-5%) and Arizona (-4%), and higher in Minnesota and Illinois (+3% each) and among those who are not in a metro area (+5%).
- **Characteristics with minimal variation:** Average scores are the same for group and solo practice.

General Dentists

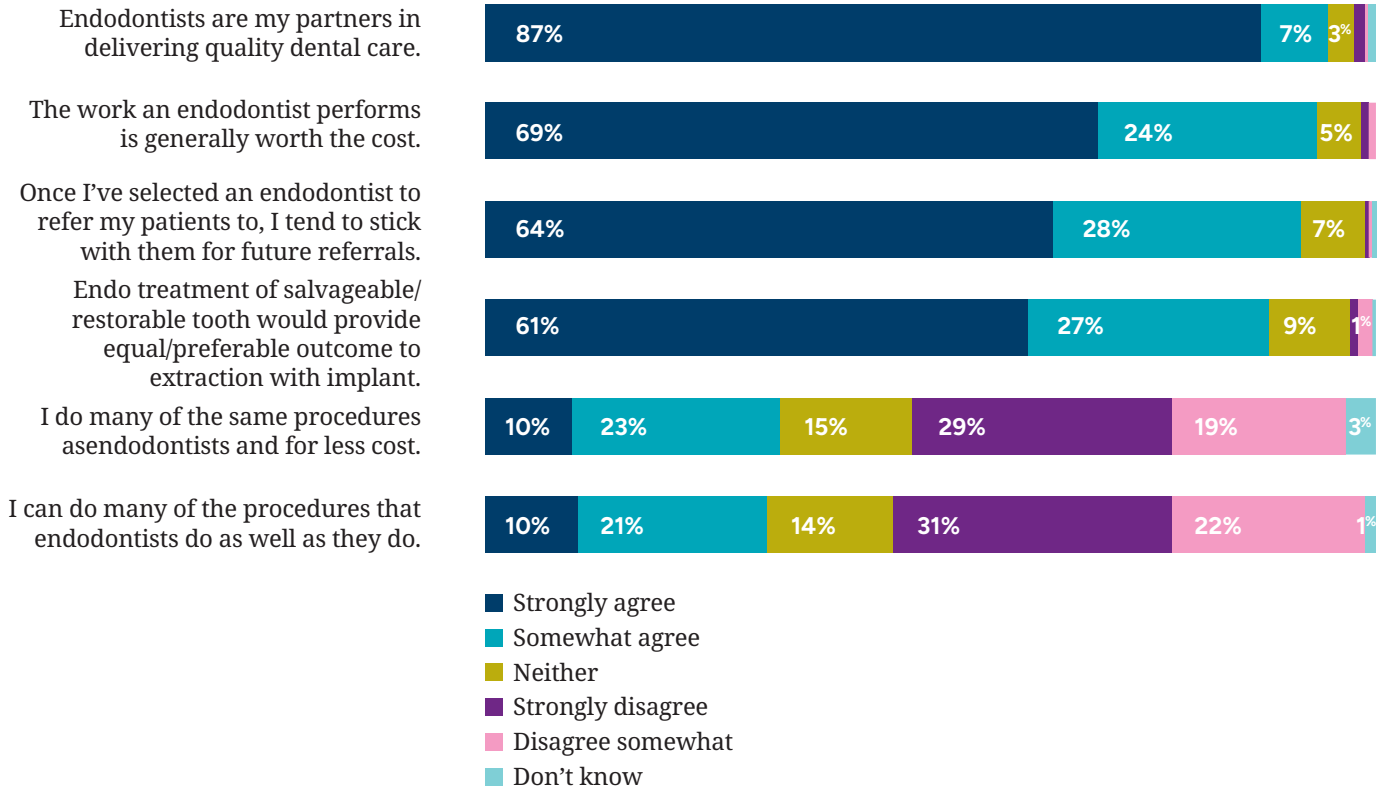


Agreement Based on Experiences/ Observations

General Dentists

Overall, the perception of endodontists is very positive.

- Four statements each have at least 60% who strongly agree—endodontists are my partners in delivering quality dental care (4.80), the work an endodontist performs is generally worth the cost (4.60), once I've selected an endodontist to refer my patients to, I tend to stick with them for future referrals (4.55) and endodontic treatment of a salvageable or restorable tooth would provide an equal or preferable outcome to an extraction with a dental implant (4.46).
- The more negative statements, that they do many of the same procedures as endodontists and for less cost (2.64) and they can do many of the procedures that endodontists do as well as they do (2.57) have only 30% who agree and about 50% who disagree with each statement. Only about 15% neither agree nor disagree with the statements.

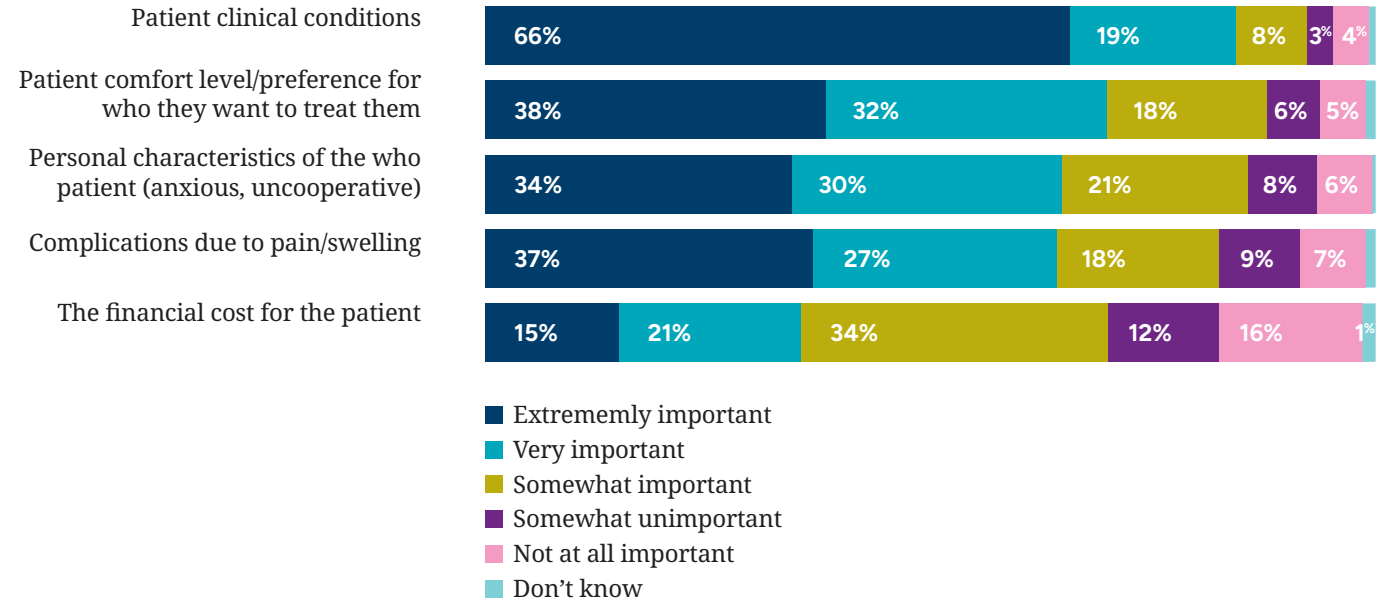


Factors Considered When Referring Patient to an Endodontist

General Dentists

The most important factors considered by general dentists when referring a patient, on a 5-point scale, was by far patient clinical conditions such as curved or calcified canals or retreatments (4.40).

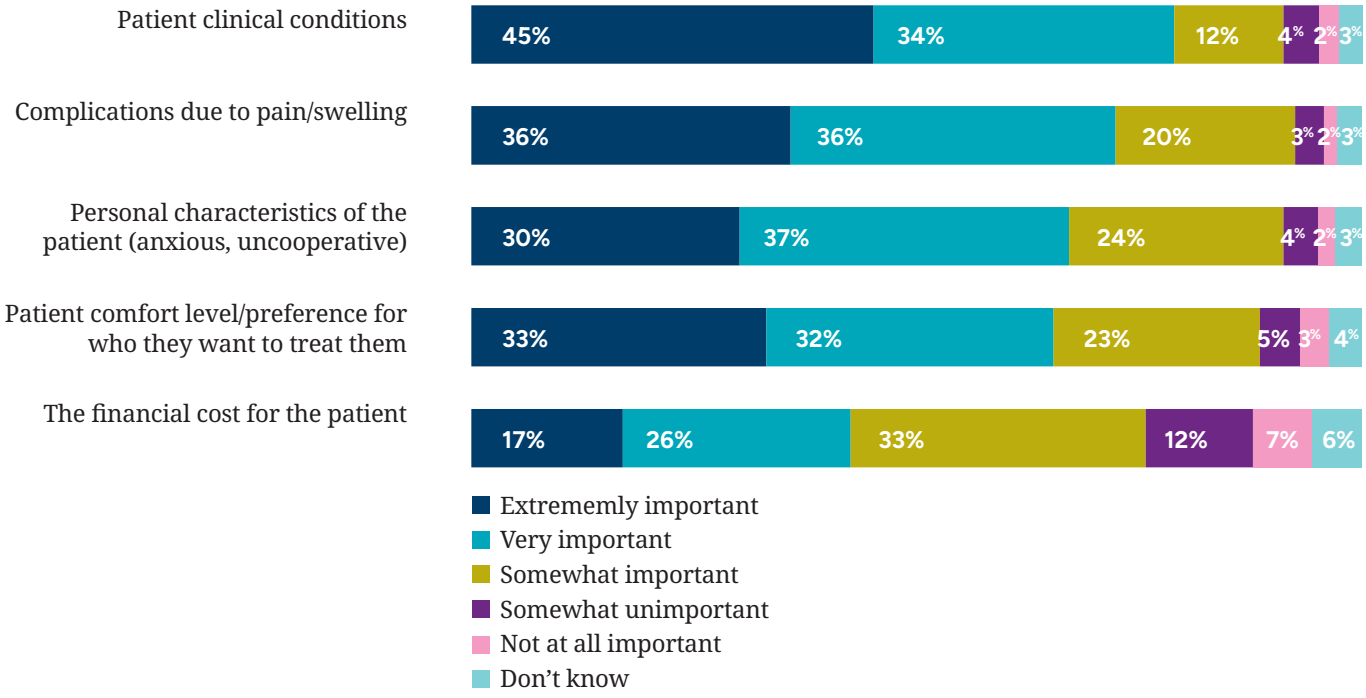
- This is much higher than patient comfort level and preference for who they want to treat them (3.93), personal characteristics of the patient such as anxious or uncooperative (3.79), complications due to pain and/or swelling (3.78), and particularly the financial cost for the patient (3.06).

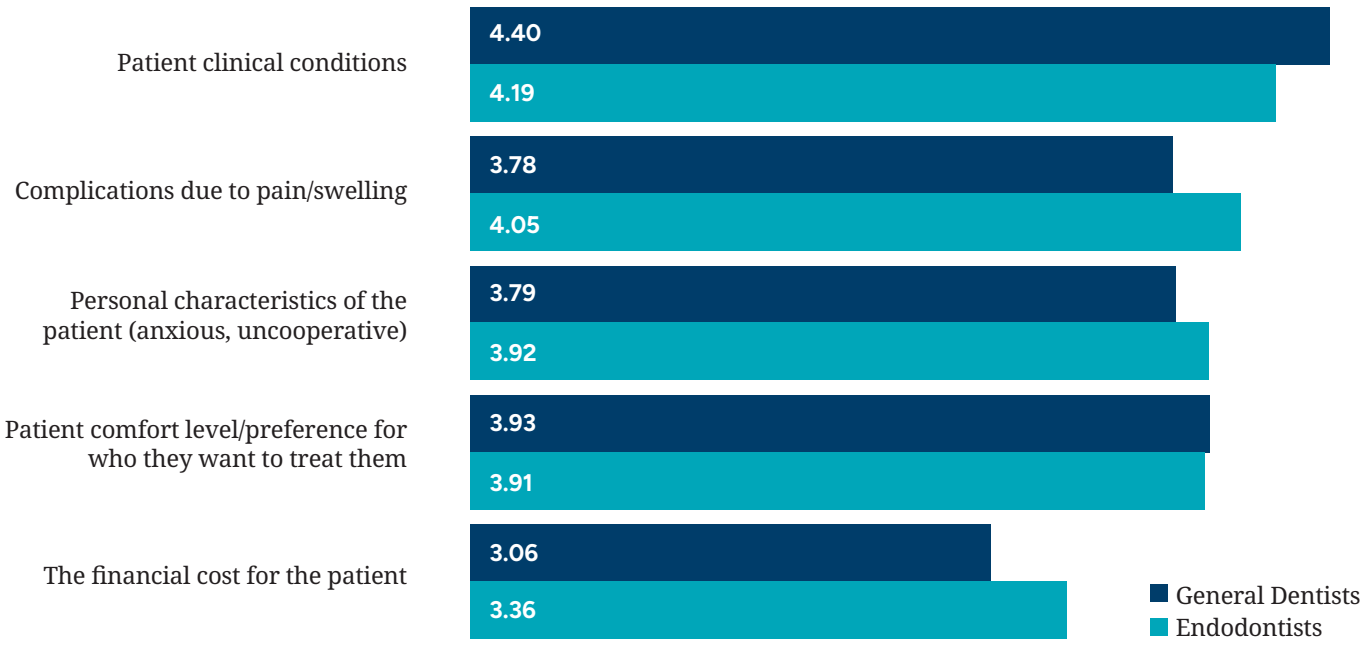


Endodontists

Endodontists' perspective of what general dentists seem to regard as important are similar with patient clinical conditions (4.19) rated highest but given a -5% lower score than general dentists assign it.

- Endodontists also feel that complications due to pain and/or swelling (4.05) are important, giving it a score +7% higher than general dentists assign to it.
- Personal characteristics of the patient (3.92) and patient comfort level and preference for who they want to treat them (3.91) are believed by endodontists to be almost very important; the former is rated about +3% higher than general dentists assign, while they also rate financial cost for the patient (3.36) lowest, but they rate it +10% higher.





Relationship Between Number of Endodontists Needed and Number in your Community

General Dentists

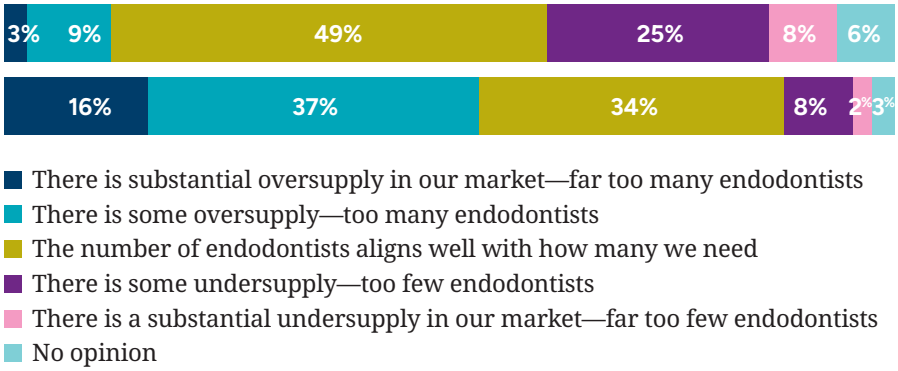
When asked to describe their market's relationship between need and number of endodontists available, about half of them (49%) say that the number aligns well with the need.

- However, there are about one-third who report an undersupply, either some (25%) or substantial (8%). Relatively few believe there is some (9%) or substantial oversupply (3%).

Endodontists

In contrast, more than half believe there is an oversupply, with many indicating some (37%) but a surprising number (16%) reporting that it is substantial.

- Only one-third say their market need aligns well with the number practicing (34%), while 10% believe there is an undersupply, once again more saying there is some rather than a substantial undersupply.

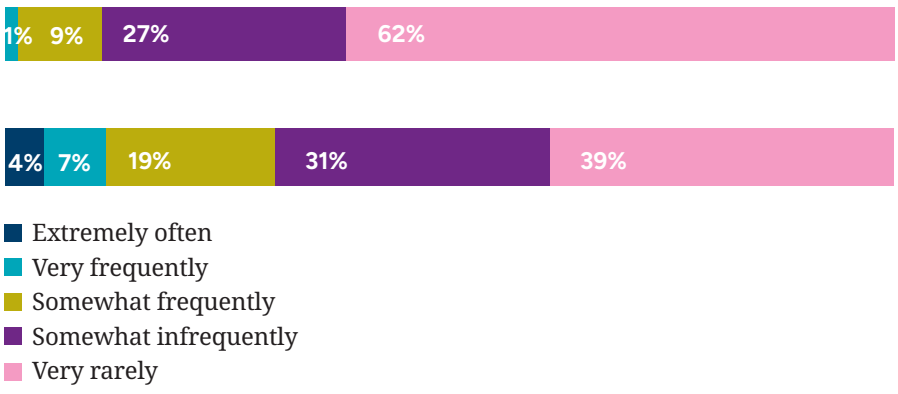


Re-Assessing Clinical Referral Decisions

General Dentists

They rarely believe that they have decided to perform root canal treatment when they probably should have referred the case to an endodontist.

- A majority (62%) indicate this happens very rarely and most of the remainder indicate it occurs somewhat frequently (27%). Only 9% say it occurs somewhat frequently and just 1% say it occurs very frequently.
- The converse occurrence, referring it when they probably should have performed it instead, occurs more often. A combined 30% say that it happens extremely often (4%), very (7%) or somewhat frequently (19%), while 31% say it occurs somewhat infrequently and 39% say very rarely.



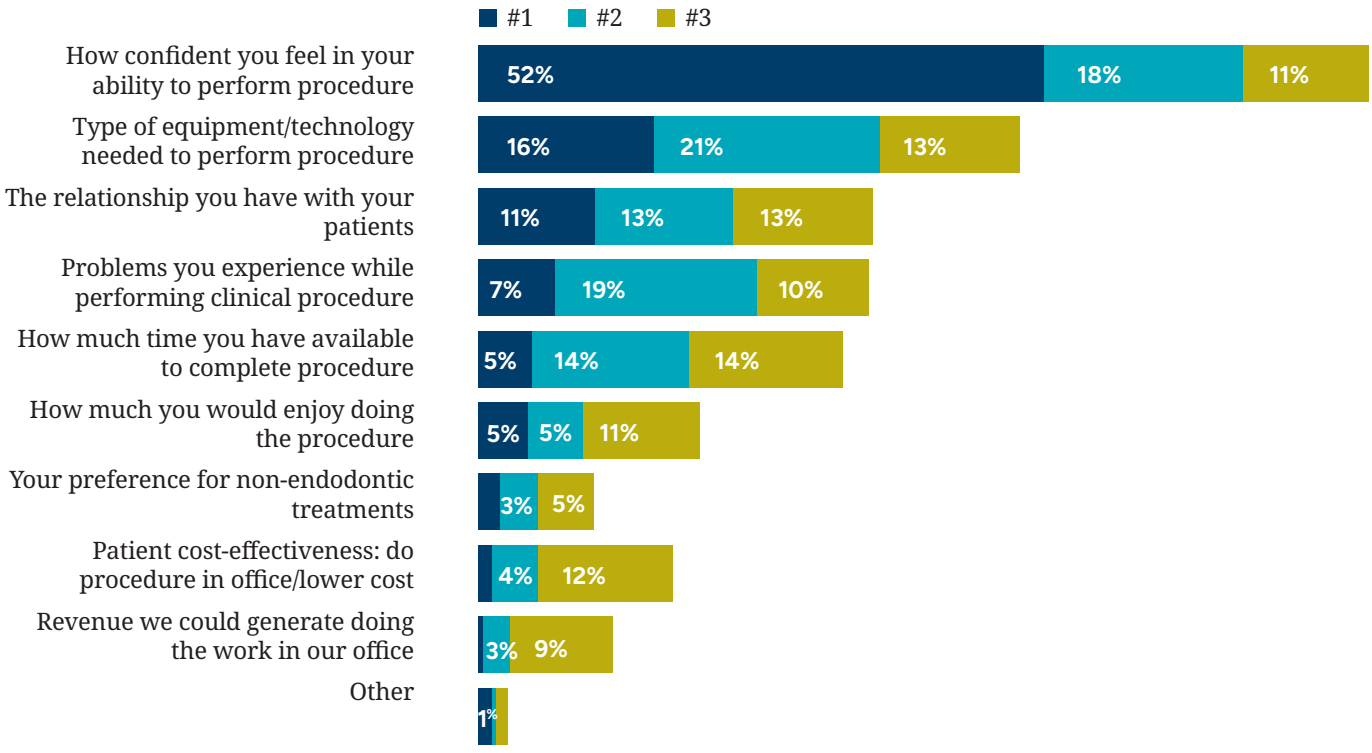
REFERRAL DECISIONS

Important Factors in Decision to Refer Patient or Perform Procedure

General Dentists

By far, the single most important factor for them is how confident they feel in their ability to perform the procedure. This is ranked single most important by 52%, while another 29% rank it second- or third-most important.

- Having the type of equipment/technology needed to perform the procedure indicated as most important by another 16%, while 21% rank it second- and 13% third-most important.
- The relationship you have with your patients—that is, the patient trusts your advice—also has at least 10% ranking it most important and 13% each ranking it second- or third-most important. Combined, these three reasons account for more than half of the most important reasons.
- In a second tier there are three other reasons—problems you experience while performing the clinical procedure (7% #1, 29% #2 or #3), how much time you have available to complete the procedure (5% #1, 28% #2 or #3), and how much you would enjoy doing the procedure (5% #1, 16% #2 or #3).
- The lowest-ranked reasons include preference for non-endodontic treatments, patient cost-effectiveness to do the procedure in-office at a lower cost to the patient, and the revenue they could generate doing the work in their office.

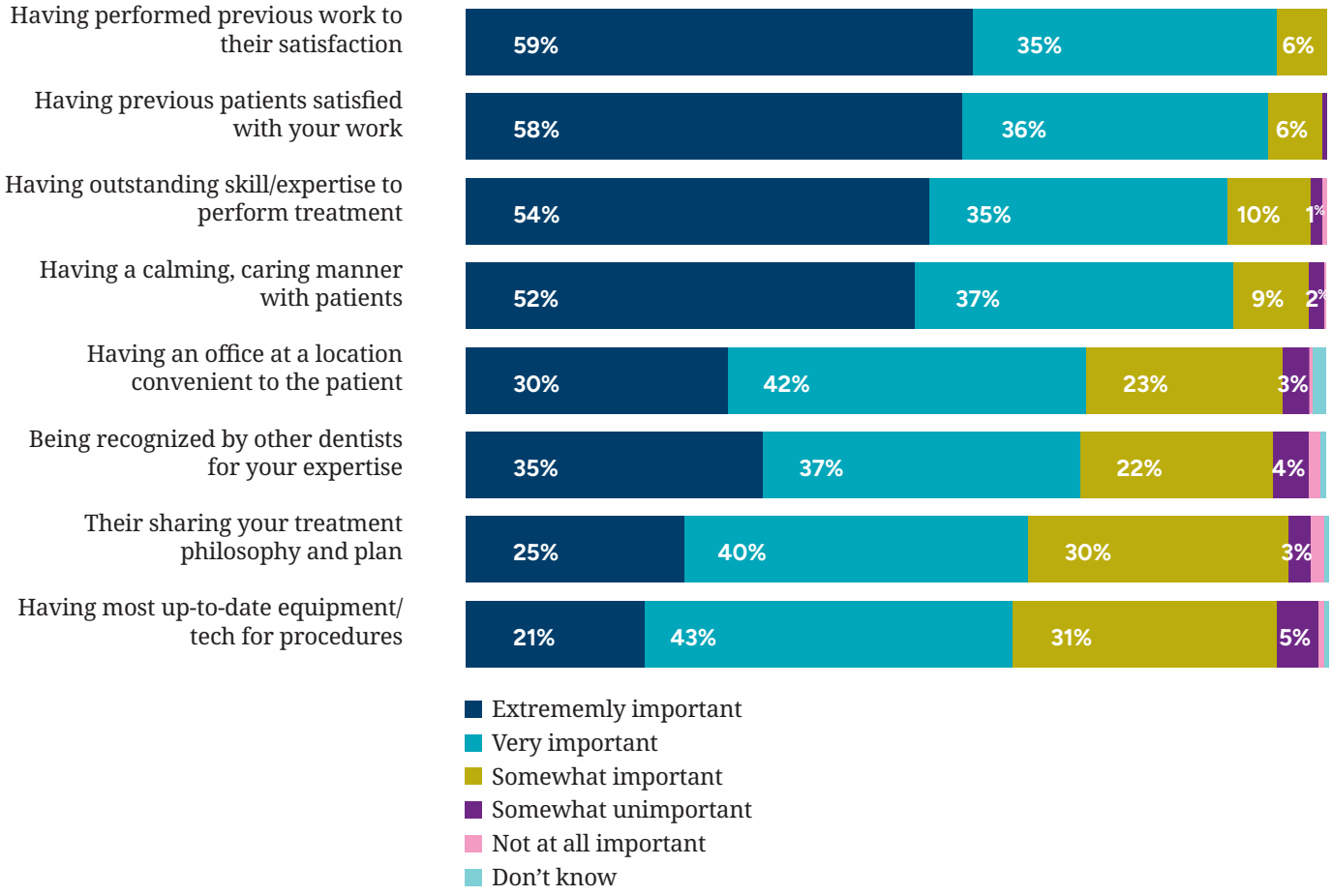


How Important you Feel Factors are in GD's Choice of Endodontist they Refer Patients

Endodontists

They feel that general dentists place the greatest importance on having performed previous work to their satisfaction (4.53) and having previous patients who were satisfied with your work (4.51).

- Having outstanding skill/expertise to perform the treatment (4.40) and a calming, caring manner with patients (4.39) is seen as almost as important.
- Two other qualities, being recognized by other dentists for their expertise and sharing your treatment philosophy and plan (4.00 each) are also rated at the numeric equivalent of very important, with a plurality feeling these are very important and slightly more rating it extremely important rather than somewhat important.
- Factors of lower importance include having an office at a location convenient to the patient (3.86) and having the most up-to-date equipment/ technology to perform procedures (3.79).

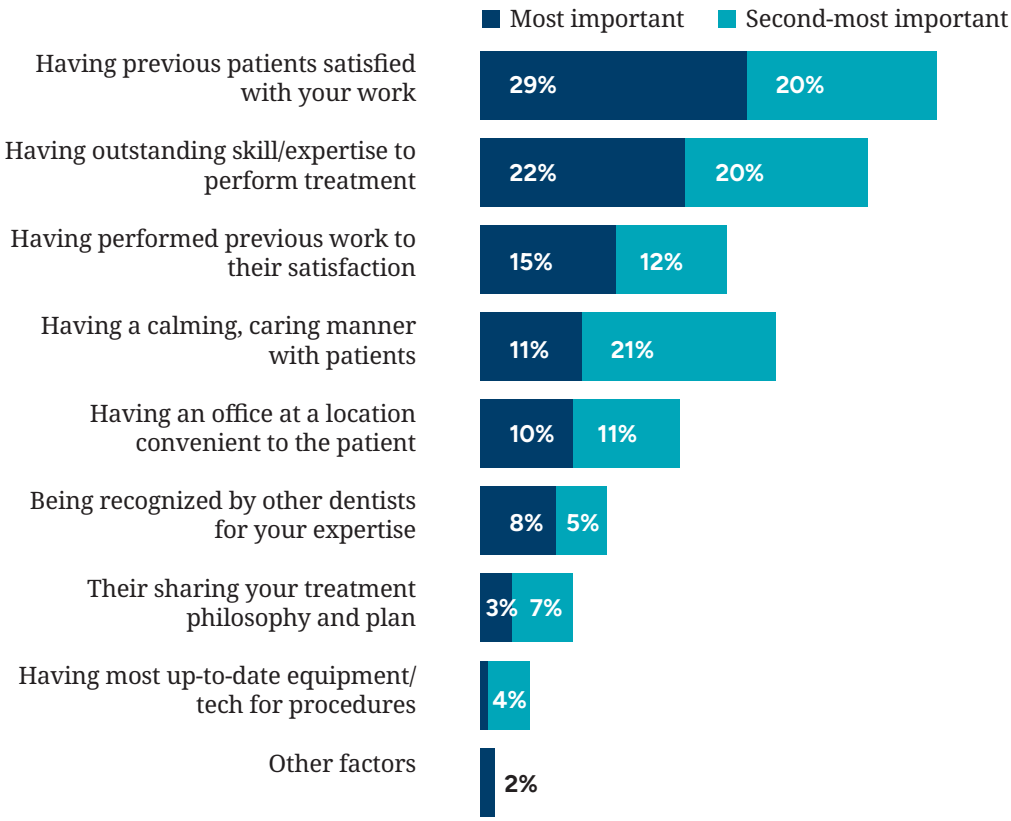


Ranking: The Most Important Factors You Believe GD's Use in Choosing an Endodontist

Endodontists

Overall, they rank the factors they believe general dentists use when choosing an endodontist as:

- Having previous patients who were satisfied with your work, rated most important by 29% and second-most important by 20%.
- Having outstanding skill/expertise to perform the treatment (22% #1, 20% #2), having performed previous work to their satisfaction (15% #1, 12% #2), and having a calming, caring manner with patients (11% #1 and 21% #2).
- The final options include having an office at a location convenient to the patient (10% #1, 11% #2), being recognized by other dentists for your expertise (8% #1, 5% #2), their sharing your treatment philosophy and plan (3% #1, 7% #2), and having the most up-to-date equipment/technology to perform procedures (1% #1, 4% #2).

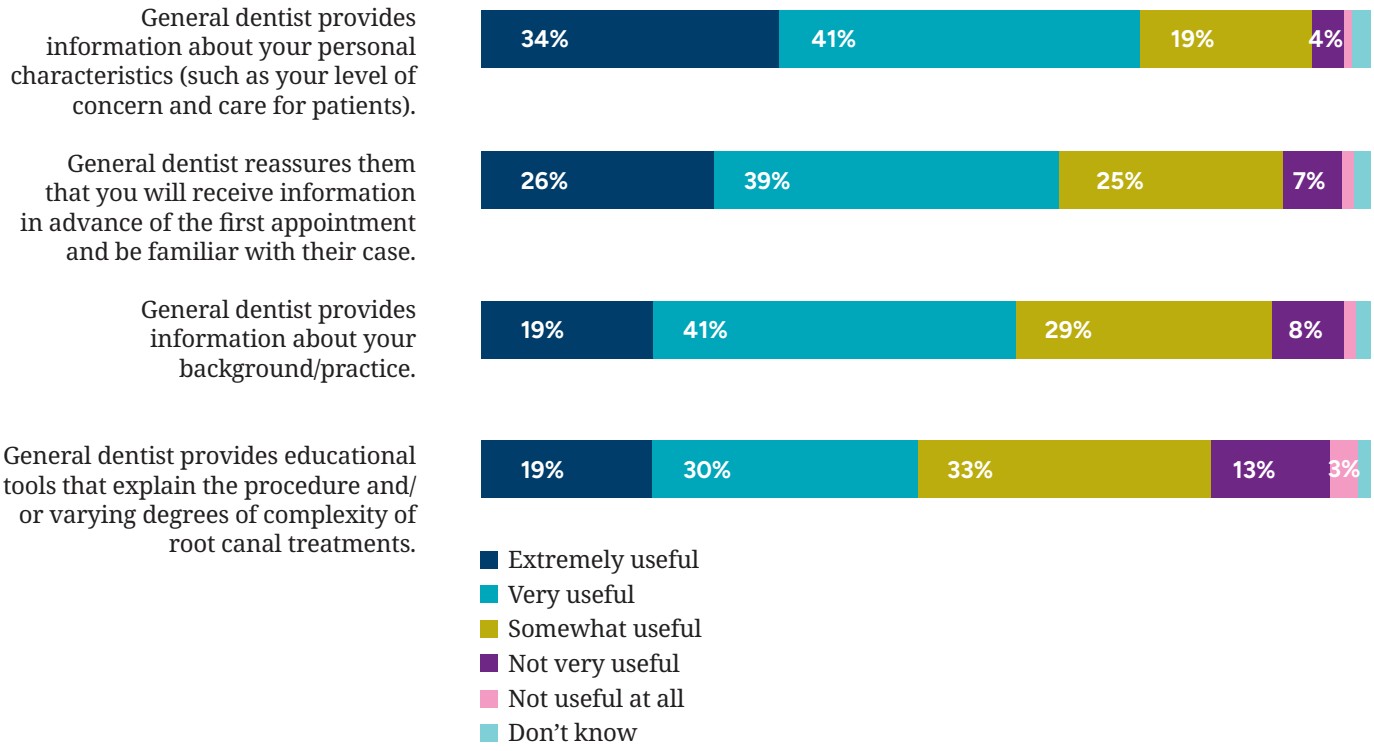


How Useful you Find These Practices with or Materials for Patients When Referred to You

Endodontists

The relative usefulness of various practices that a gender dentist can engage in (or provide materials) to patients when they refer shows only one rated 4.0 or higher on a 5-point scale.

- General dentist provides information about your personal characteristics such as your level of concern and care for patients (4.04) has a plurality regarding it as very useful (41%); while many (34%) regard it as extremely useful, this is offset by 19% who see it as somewhat useful and 5% who believe it's not very useful or not useful at all.
- In descending order of usefulness are the general dentist reassuring them that they will receive information in advance of the first appointment and be familiar with their case (3.83), they provide information about their background/practice (3.70), and provides educational tools that explain procedure/varying degrees of complexity of root canal treatments (3.49).

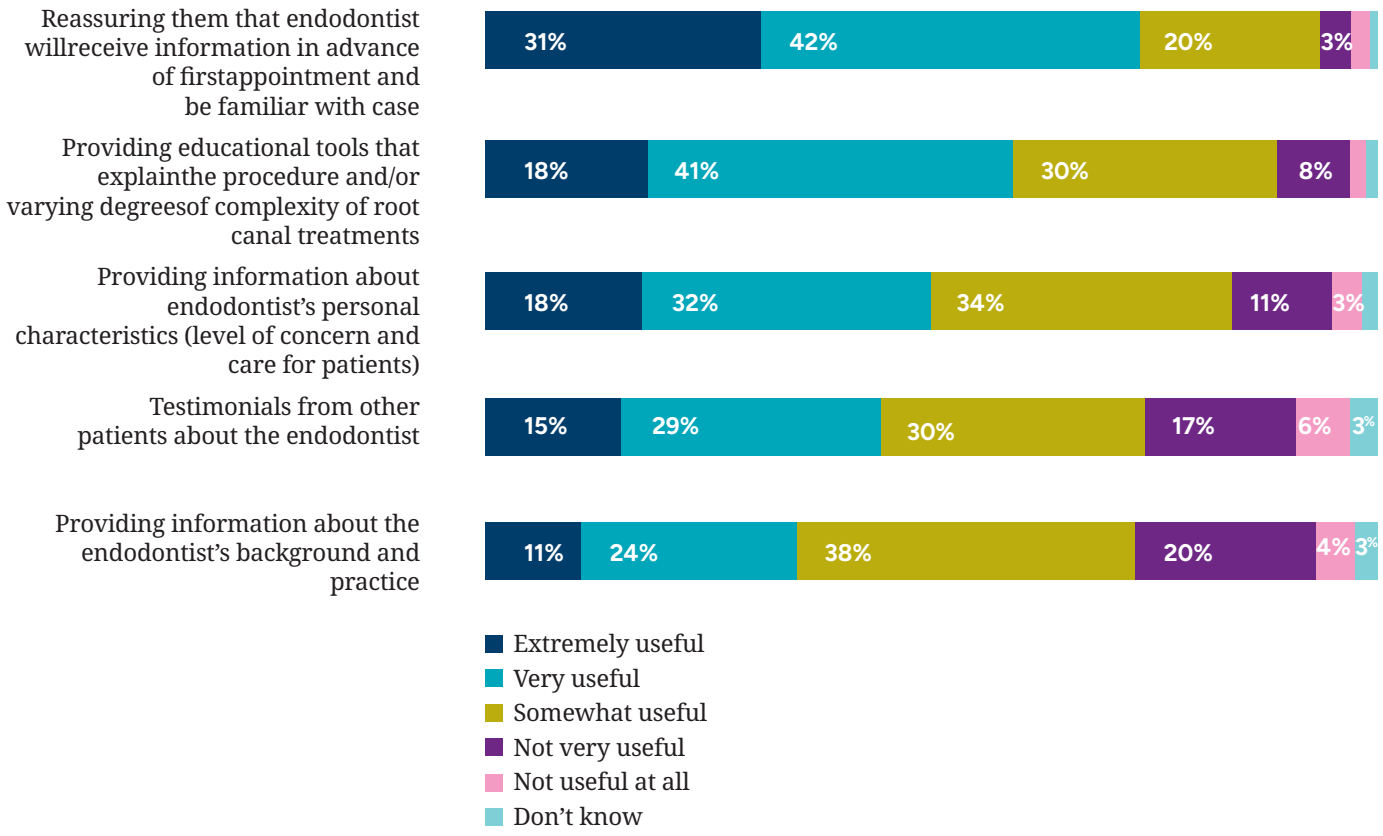


How Useful to Provide These to Patients When Referring Them to an Endodontist

General Dentists

In comparison, they believe that the most useful thing they provide their patients when doing the referral is to reassure them that the endodontist will receive information in advance of the first appointment and be familiar with their case (3.97).

- There is a drop-off for other things they can provide, with much lower usefulness ratings for providing educational tools that explain the procedure and/or varying degrees of complexity of root canal treatments (3.67), providing information about the endodontist's personal characteristics such as their level of concern and care for patients (3.50), and particularly testimonials from other patients about the endodontist (3.31) and providing information about the endodontist's background and practice (3.17).
- The general impression we form from these findings is that "less is more," while almost three-fourths feel assurances of orientation to the patients' case is very or extremely useful, this drops to about 60% for procedural education, and half of less feel that testimonials, describing the endodontist and their background and practice are very or extremely useful. Critical in their initial decision to refer, perhaps, but not to convey to the patient.

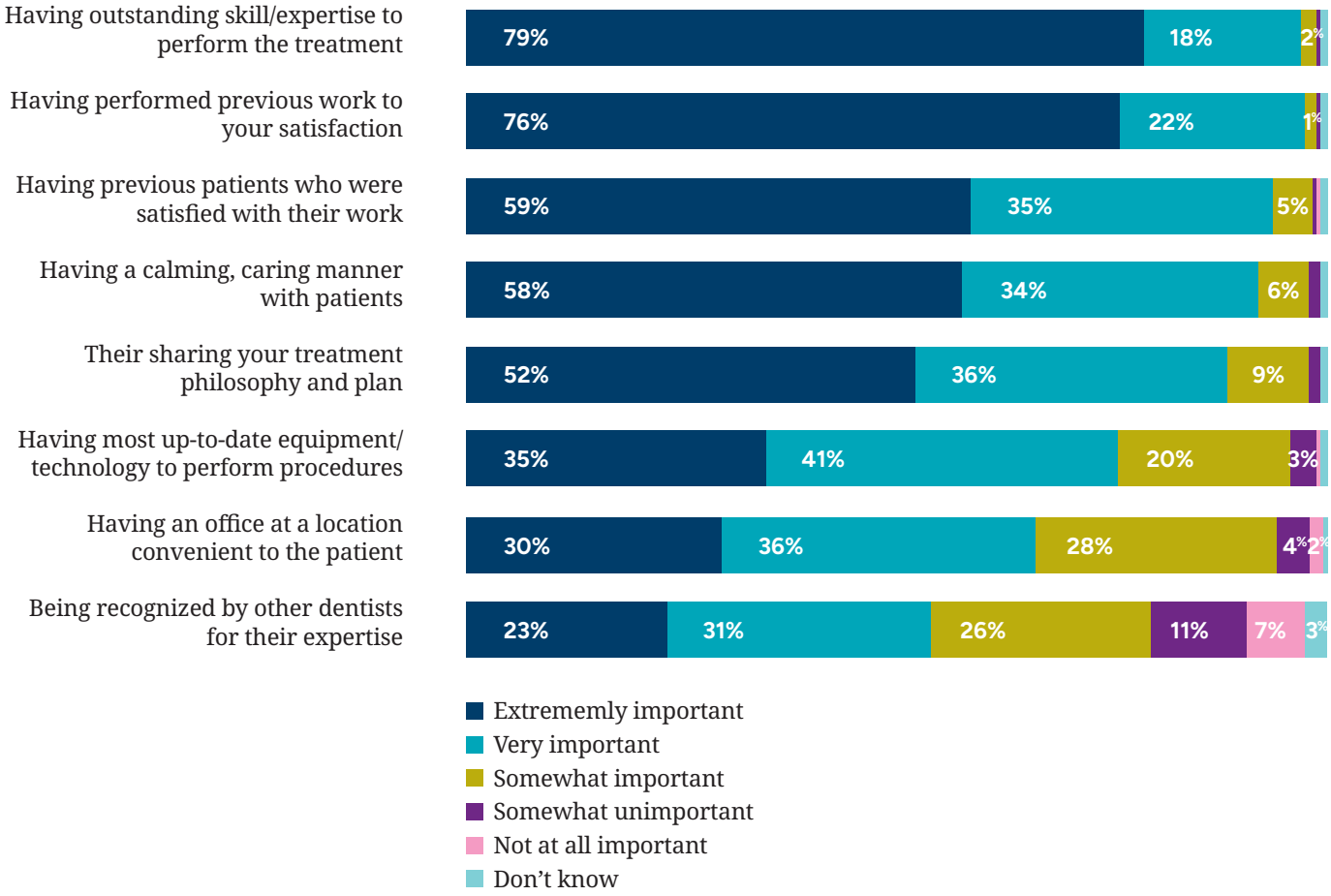


Importance of Factors in Their Choice of which Endodontists to Refer Patients to

General Dentists

The two factors rated by far most important are having outstanding skill/expertise to perform the treatment (4.77) and having performed previous work to their satisfaction (4.74). Clearly, one factor gets the endodontist consideration, the second helps ensure longer-term relationship. Each of these are seen as extremely important by three-fourths of respondents.

- Three other factors have a majority who rate them extremely important and at least one-third who rate them very important. These include having previous patients who were satisfied with their work (4.52), having a calming, caring manner with patients (4.50), and sharing your treatment philosophy and plan (4.41).
- Even the factors rated least important are still important to some degree. Having the most up-to-date equipment/technology to perform procedures (4.08), having an office at a location convenient to the patient (3.89), and being recognized by other dentists for their expertise (3.54) are very or extremely important to between 54% and 76%.

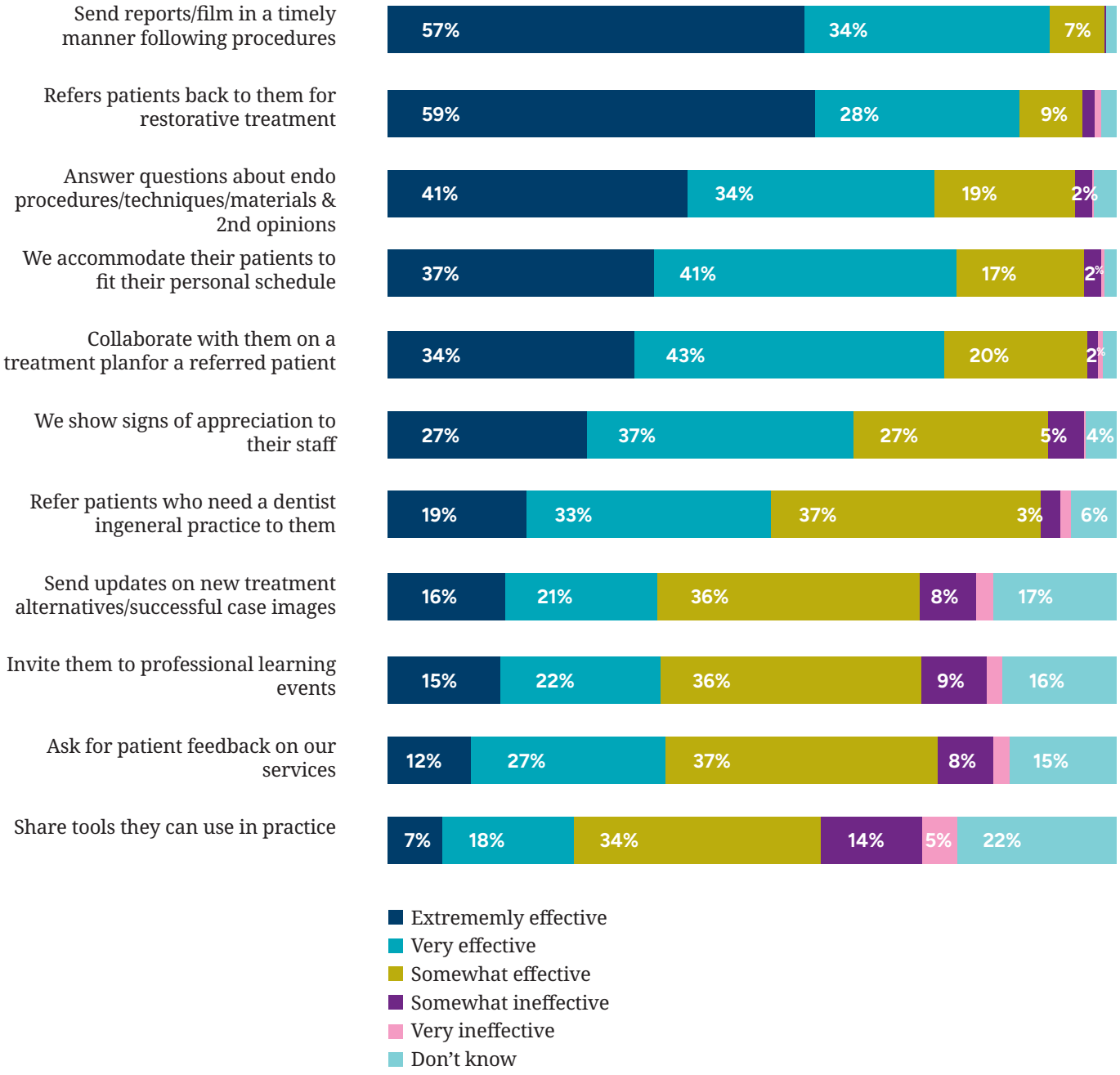


Effective Factors in Building Reciprocal Relationships/ Partnerships with GD

Endodontists

They regard the most effective factors as sending reports and film to them in a timely manner following procedures (4.50) and referring patients back to them for restorative treatment (4.45). Each have a majority who rate them extremely effective and most of the remainder rating very effective.

- Other factors rated with numeric equivalent of very effective or higher include answering questions about endo procedures/techniques/materials and available for second opinions (4.17), accommodating their patients to fit their personal schedule (4.13), and collaborating with them on a treatment plan for a referred patient (4.10).
- Less effective factors include a mix of courtesies and more detailed aspects of collaboration. For example, showing signs of appreciation to their staff (3.90) is seen as relatively effective, while referring patients who need a dentist in general practice to them (3.70) and particularly inviting them to professional learning events (3.47) are seen as much less effective.
- Sending updates on new treatment alternatives/successful case images (3.49), asking for patient feedback on services (3.44), and sharing tools such as assessment forms and patient ed info that they can use in practice (3.12) are seen as relatively ineffective. The lowest-rated factors also have higher levels who don't know, suggesting that some endodontists have not tried or thought about them to a sufficient degree to have an opinion.

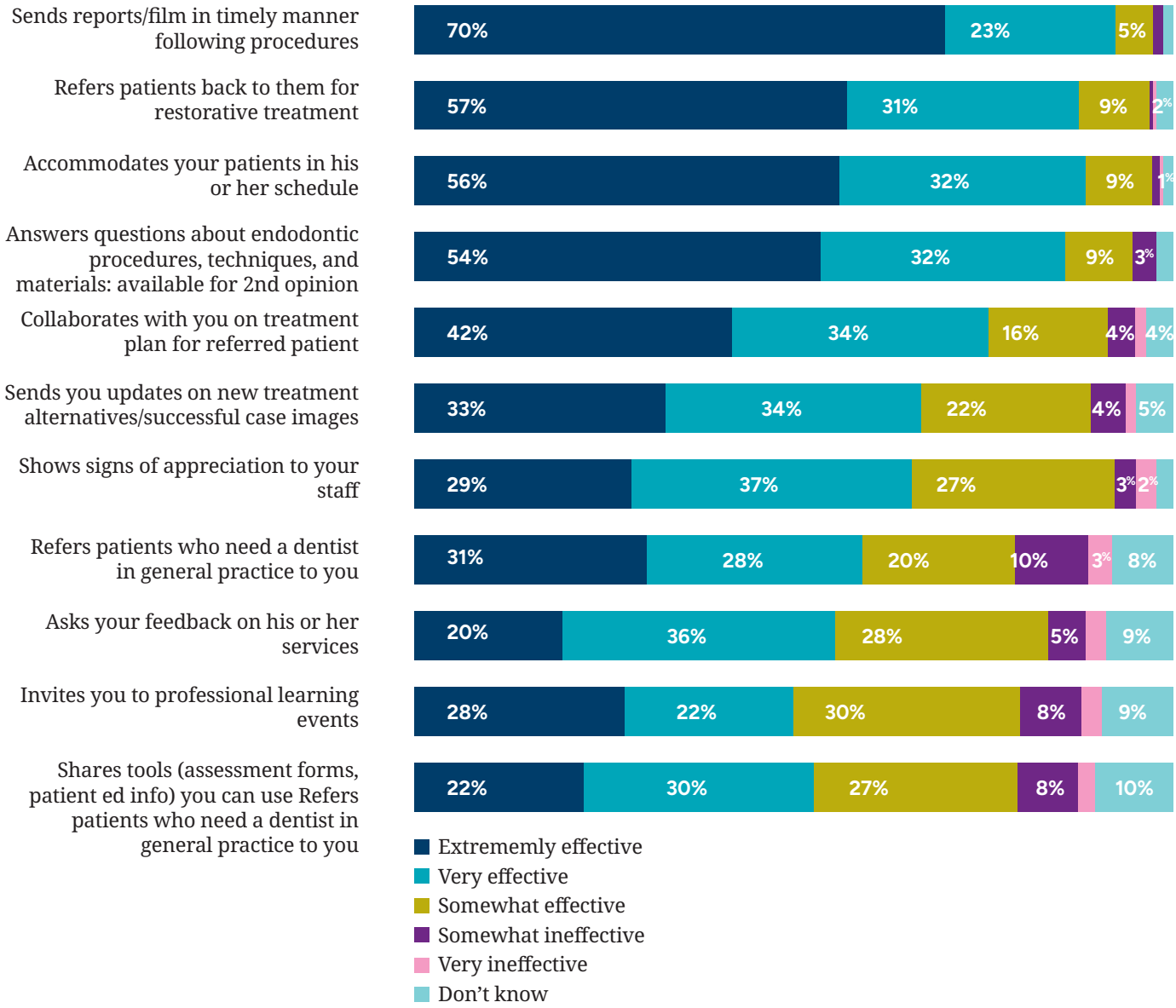

Send reports/film in a timely manner following procedures
57%
34%
7%
Refers patients back to them for restorative treatment
59%
28%
9%
Answer questions about endo procedures/techniques/materials & 2nd opinions
41%
34%
19%
2%
We accommodate their patients to fit their personal schedule
37%
41%
17%
2%
Collaborate with them on a treatment planfor a referred patient
34%
43%
20%
2%
We show signs of appreciation to their staff
27%
37%
27%
5%
4%
Refer patients who need a dentist ingeneral practice to them
19%
33%
37%
3%
6%
Send updates on new treatment alternatives/successful case images
16%
21%
36%
8%
17%
Invite them to professional learning events
15%
22%
36%
9%
16%
Ask for patient feedback on our services
12%
27%
37%
8%
15%
Share tools they can use in practice
7%
18%
34%
14%
5%
22%
Extrememly effective
Very effective
Somewhat effective
Somewhat ineffective
Very ineffective
Don't know

Effective Factors in Building a Reciprocal Relationship/Partnership with Endodontists

General Dentists

While sending reports and film in a timely manner following procedures (4.63) is rated highest by general dentists, with 70% rating it extremely effective, three others are each rated well above 4.0.

- These include referring patients back to you for restorative treatment (4.47), accommodating your patients in his or her schedule (4.45), and answers your questions about endodontic procedures, techniques or materials and being available if you need a second opinion (4.39).
- The only other factors rated at or higher than 4.0 are collaborating with you on a treatment plan for a referred patient (4.15) and sending you updates on new treatment alternatives/successful case images (3.98).
- Lower-rated factors cluster relatively close together including showing signs of appreciation to your staff (3.88), referring patients who need a dentist in general practice to you (3.80), asking your feedback on his or her services (3.71), inviting you to professional learning events such as seminars, study clubs, and dental society meetings (3.71), and sharing tools such as assessment forms and patient ed info that you can use in practice (3.70).

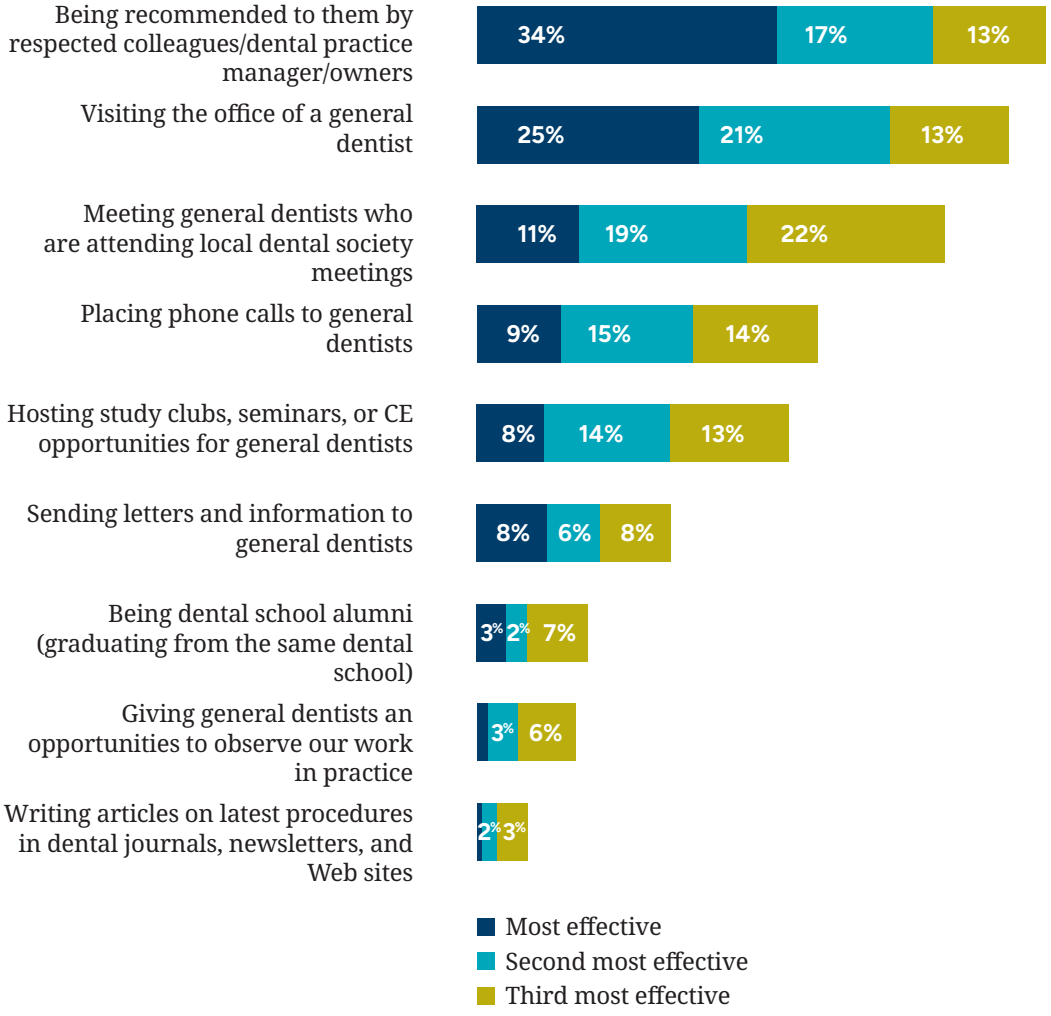


Most Effective Ways to Establish Successful Contact with General Dentists in your Area

Endodontists

They are most likely to rank being recommended to them by respected colleagues/dental practice manager/owners, with one-third (34%) ranking this the single most-effective, while another 30% rank it second- or third-most.

- Visiting the office of a general dentist (25% most effective, 34% second or third), general dentists who are attending local dental society meetings (11% most effective, 41% second or third) are also among the three most effective methods for at least half of endodontists.
- Three other ways to establish contact that are regarded as most effective by almost 10% each include placing phone calls to general dentists (9% most effective, 29% second or third); hosting study clubs, seminars, or CE opportunities for general dentists (8% most effective, 27% second or third), and sending letters and information to general dentists (8% most effective, 14% second or third).
- As we saw in the open-ended comments, many endodontists have embraced formal marketing approaches to help increase their visibility and contact rates.
- The lowest-ranked ways include being dental school alumni, graduating from the same dental school (3% most effective), giving general dentists an opportunities to observe our work in practice and writing articles on latest procedures in dental journals, newsletters, and Web sites (each 1% most effective, few second or third most effective).

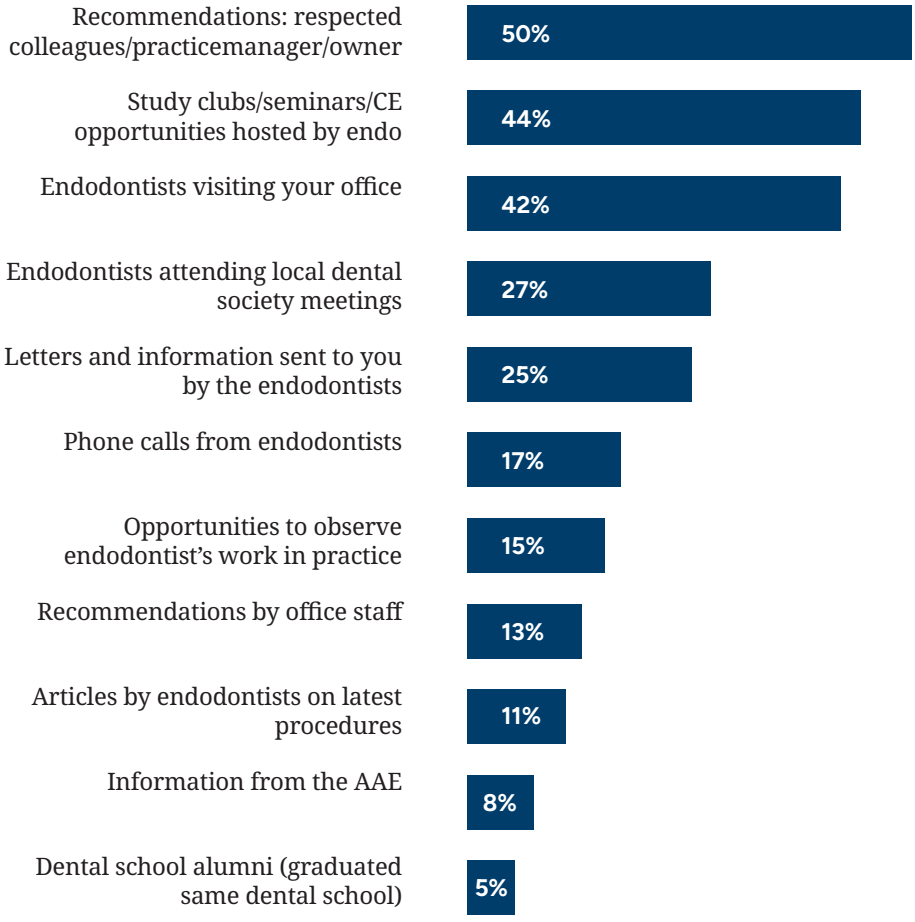


Most Effective Ways to Learn More about Endodontists in your Area

General Dentists

Using a multiple-choice format, general dentists indicated what ways they find most effective.

- Three ways—recommendations by respected colleagues or dental practice's manager/owner (50%); study clubs, seminars, or CE opportunities hosted by endodontists (44%), and endodontists visiting your office (42%)—are far more likely to be indicated.
- Two are indicated by about one-fourth each, including endodontists attending local dental society meetings (27%) and letters and information sent by endodontists (25%).
- Approaches less likely to be regarded as effective include phone calls from endodontists (17%), opportunities to observe an endodontist's work in practice (15%), recommendations by office staff (13%), information from the AAE (11%), articles by endodontists on latest procedures (8%), and dental school alumni (5%).



Comments:

General Dentists

Survey comments were categorized by their topical area below. Generally punctuation separates the comments of different individuals responding to the question.

A dental specialist

- Endodontist (10), Periodontist (6), Pediatric dentist (5) & general DDS in pediatric practice, Prosthodontist (4), Orthodontist (2) or orthodontic residency, general dentist with fellowships in Endodontics & Dental Implants, employed by US. Naval Hospital under DHA. GP for 9 years now endo resident.

Which best describes your practice?

- **DSO** (5) solo practice part of DSO
- **Other practices** (4) Associate, 2-doctor private practice, family member practice, group practice with separate "offices" in building (owner dentist w/ associate, third dentist rents space from me but has her own practice).
- **Partners** (2) with brother, private partnership
- **Resident** (2)
- **IC** (2) 1099 traveling periodontist in 3 offices, locum
- **Others** (4) Community Health Center, public health not government, S-Corp, lead dentist in public health clinic and AEGD residency Program Director

How important are these factors when you consider referring a patient to an endodontist?

- **Insurance** (8) coverage & participation. In-network options/status of office is #1 criteria for which practice to send the patient to. Sometimes they have specific needs based on insurance and in-network providers.
- **Availability** (7) in my schedule to treat the tooth promptly. Limited opening is a big one. Next available, full appointment time. Timing: how soon can they see this patient, if not I open the tooth and decide if this fits into my schedule. Who can see the patient the first. Factors above are important, but are not a consideration since there are limited endodontists here.
- **Work style** (6) I want an endodontist that is detailed in determining a diagnosis and discussing details with the patient. Personality of the endodontist themselves. Endo bed side manners. My comfort level with the endodontic specialist, especially shared goals for treatment outcomes. Also want an endodontist that is not overly aggressive in overall care and in access opening. That I know what to expect from the endodontist and that they provide the best possible care available.
- **Medicaid** (4) I see mainly Medicaid patients work in a rural, public-health clinic and there is only 1 endodontic clinic that accepts their insurance, and a 2nd one that is local. I see Medicaid patients. Some Medicaid patients do not have an option. State Medicaid does not cover endo. So, we refer out what is too difficult for us, but do more endo than most GP clinics because they can have payment plans with us, and NOT the specialists that want cash up front.
- **Patient qualities** (4) Patient PIA factor. Complex facial pain presentation. Complex medical status. Poor over all prognosis, or not seeing canals , very curved roots , suspecting a fracture , a second opinion . Separated file in the apical third . Refer when unable to diagnose tooth or unsure of my diagnosis.
- **Communication**!!!! (4) Excellent communication to patients and back to our office. That the endodontist provides honest and reliable feedback about the long-erm prognosis for the tooth or condition. Communication is important to me, if there is a crack or other complication.

- **Location** (4) Travel considerations.
- **Retreatment** (3) Open apex due to age. I do no retreatment. An endodontist that can minimize retreatments.
- Conditions based on **work setting/specialty** (2) As a periodontist, I see a lot of possible fractures/PA lesions. I often want endo input on options before extracting. Working at a federal prison, referrals to endodontists are extremely rare and require approval by an overseeing regional dentist.
- **Quality** (2) of root canal therapy. Quality of work
- **Non-discretionary** (2) We refer all endo cases. I refer out all my endo and if a patient has a particular endodontist, they want to see we will send them there. All the endodontists in our area are great! We normally try to get the patient into the first available appointment.
- **Others** (7) Airway. Difficult access. Identify fractured roots. Overall office staff friendliness. Sedation request. Technical advances that an Endodontics office has that we don't, such as a ceiling mounted microscope and apical suction. RCT gets best results if it is done by an endodontist.

What factors led you to recently add new endodontist(s) to refer your patients?

- **New** (9) Endodontic providers have opened practice in our region. New endodontist came to town. New Endodontist in area, previously very long wait times for treatment. New practice nearby. New moved to town. New to area practices. I learned there were more local endos.
- **Availability** (8) Appointment availability. Hard to get pts in with other one. Wait times for patients in pain. Too long of a wait for pt get in. Unable to get patients in to existing referrals.
- **Insurance** (7) accepted. Changes in specialty offices. Insurance option. We needed an option for pt who required the provider to be in network with insurance. Who takes what insurance. Our preferred endodontist does not accept all insurance plans.
- **Replacement** (5) The former endodontist I refer to does not communicate well and not available for questions. Old endodontist moved. Retirement of preferred specialist. Needed to replace old endo office that added oral surgery. Lost confidence in the endodontist that I worked with for over 20 years. Sometimes it is time to retire.
- **Options** (5) Needed another option for patients. Benefit for patients. More options for patients to get scheduled more quickly when existing referrals are scheduled out too far. More options for patients. Took a class at the office and needed another option for patients.
- **Capabilities/style** (4) Personality of practitioner. Same clinical philosophy. Style of practice. Solo Endo preferred and who have good chair-side manners, CBCT, Microscopy & Excellent Pulp Testing.
- **Location** (4) to my practice. Proximity that is convenient to patients.
- **Proactive outreach** (4) An endodontist that I knew from dental school reached out and asked if we would consider referring to her. They came by office in person. They made personal approaches to our office. Endodontist visited the office.
- **Changes** (3) In location of practice. Change in location, proximity to my patients. Change of practice.
- **Communication** (3) Via text with Dr. Language barriers.
- **Patients** (2) A patient asked if he could see an endodontist that his aunt had seen because he had the same insurance plan. Positive feedback from patients.

- **Relocation** (2) New location in an underserved area.
- **Patient conditions** (2) Case load. We see A LOT of public health Pts with necrotic teeth that need endo. Molar canal complications.
- **Others** (4) He moved in. Cost. Not related to my specialty. The practice I send people to expanded and added two new providers.

What factors led you to stop referring patients to specific endodontist(s)?

- **Communication** (8) poor/lack of communication. Lack of patient follow up report once procedure is completed without asking. Not satisfied with communication. Zero communication from the endodontics regarding proposed treatment.
- **Outcomes** (7) Inadequate results. Poor outcomes. Poor quality of completion, but that was years ago. Long-term outcomes. Patient feedback. Bad outcomes like perceived over treatment. Bad feedback from patients. Poor buildups or rec crowns were non-restorable.
- **None** (7) I have yet to do that. I haven't stopped referring to any endodontists. Not related to my specialty. Still refer to same endodontist. working with the same group for @ 30 years. Retired.
- **Quality** (4) of work. Gave questionable prognosis too often. Skill.
- **Chair side manner** (4) I do have one endodontist that made a patient very angry because he was very rough physically. The patient had initial treatment started, and was supposed to have a second appointment to complete the molar RCT. The patient informed me that he was going to have it extracted because he refused to go back to this endodontist. Ultimately, I was able to convince him to see another endodontist in the practice who has a great bed side manner and she completed the treatment for the patient. Personality.
- **Process** (3) Hassles with only online referral systems that don't fit into my busy work flow. Difficult process of referring. The way they were screening patients before seeing them.
- **Approach** (3) Differences in treatment philosophy. Lack of effort. Honesty.
- **Insurance** (3) Out of network for a lot of our patients. Usually, endos stop taking insurance. Changes.
- **Conditions treated** (2) Complicated anatomy, maxillary sinus involvement. Time to treat more complex cases.
- **Staff** (2) Front desk staff and follow-up
- **Patient experience** (2) Amount of time of the appt. He would argue with me that the tooth was hopeless several times, but I knew he was wrong and I didn't want to waste my patients' time and money.
- **Scope of treatment** (2) Endodontist did more than requested. Stole patient.
- **Availability** (2) Unavailable due to schedules. Never sure what endodontist will see them in that group.
- **Financial** (2) Policies: i.e. extra fees to pay with credit card or check. PRICE our patients just cannot come up with $1,500 most of the time in public health.
- **Other** (2) Location. Staff.

What other factors are important to you in making the referral decision?

- **Refer all** (10) endo, I do no Endo. no longer do any endo procedures, by choice. I don't do endo as an orthodontist. I choose to NOT do any endodontic procedures at all in practice. I do not do endo procedures. I don't do endodontic treatment so they all get referred to the endodontist. I don't want to do RCT....I have not done one in 30 years. We don't perform endo in our office so all endodontic procedures are referred out.
- **Patient conditions** (9) Able to give sedation for uncooperative children. Patient behavior—anxiety, low pain threshold, sensitivity, limit mouth opening. Patient compliance. Factors (e.g. anxiety levels, ability to open wide enough/long enough, etc.) Optimal outcomes. Age and general health. For incomplete root formation, proper follow up for future finish of the treatment. Patient cooperation.
- **Self-assessed abilities** (8) I refer if I don't feel I can provide the same quality of care on that case. Endodontists do a better job. My training and ability are old or outdated. I feel endodontists are much better than I am at completing RCT and it requires less time for the patient when the referral to endo is made. Ethically I cannot do other specialty procedures. Rarely do endodontic treatment. I'm better at other things. As general dentists I do restorative, crown and bridge, Oral Diagnosis clinic. Patient treated are determined by the command layout. Can I do this successfully?
- **Confidence/disagreements** (8) In my endodontist, in the specialist. If I think the endodontist is going to recommend extraction when I am not convinced there is a fracture. Getting a second opinion if it can be saved or better if extracted. Knowing that my patient will be treated well. Predictability of prognosis. Probability for failure. Difficult diagnosis/ inconsistent testing.
- **Quality of outcomes** (8) If root canal was done by endodontist and problems recur. Previous RCT. Any re-treatments. Re-treats are most of our referrals. Previous history of root canals failing/ bad experience with root canal. Long term outcome when performed with the proper technology/ skillset. What is best for the treatment outcome.
- **Available time** (5) If we do not have time in schedule to accommodate patients. Time available. Time constraints of the patient and cost to the patient. Timeliness of getting a patient out of pain. Same day treatment availability.
- **Patient** (5) Whether or not patient wants to save tooth. Whether patient can afford to see an endodontist; I'm in public health and often don't refer when I should simply because the patient will not be able to pay and elect extraction instead if I don't attempt the RCT. Complexity. Providing access to what is best for the patient. Patient will be treated with the utmost care and clinical expertise at the endo office we refer to.
- **Insurance/reimbursement** (3) Endodontists who accept Medicaid. In-network insurance fees. Patients are on Medicaid most of the time. My PPO pts I generally refer more. Ask HMO are referred.
- **Speed** (3) Will the endodontist be able to get them taken care of sooner than our office? Quickness of triaging pain. Speed and outcomes with dilacerated roots or complicated anatomy.

- **Abilities of endo** (3) Clinical experience of the endodontist and their interactions with the patients. Attitude of the endodontist. Personality of the specialist.
- **Equipment** (3) I don't have the appropriate equipment. If they use gentle wave. I do not have a microscope.
- **Conditions** (2) Do not want to refer any tooth that's necrotic with PAP present. Perceived case difficulty.
- **Location** (2) convenient for patient.
- **Communications** (2) reports back to the general dentist. Clear comms present with the endodontist.
- **Surgery** (2) Needing surgery. Possible need for endodontic surgery.
- **Other** (14) Ability of patient to open for access. Airway Convenience and cost effectiveness. Expediency of getting patient an appointment with an endodontist How much I enjoy doing it. If we are short staffed with GP DDS, then we have less time available for complicated RCTs. If we are fully staffed, we can keep more endo in house if the cases are reasonable. I don't advise my patients for retreatment or APICO of long-standing endo as I believe extraction is the best course of action for those cases. Proper prognosis of previous root canal tooth, either to save or extract. Self-expectation that results should equal what a specialist will achieve. Strategic importance of tooth, presence of a crown, sclerotic canal, bifurcation of canal. Who does the best RCT. Who the endodontist is and my experience in referring patients. In federal prison referrals to endodontists are extremely rare. Revenue I can generate instead.

How important are these factors in your choice of which endodontist(s) you refer your patients to?

- Able to see patients quickly when pain is involved. Communication. Communication with provider! I have never had an endo reach out to me! Honesty: if the tooth has a vertical fracture, they will tell me and the patient and not do the endo treatment. Insurance network participation. Same ethnic group

What else do you find helpful to provide the patients when referring them to an endodontist?

- **Cost/financial** (9) or ability to work with patients re payment, estimate, payment options. Estimate of costs, our patients "go in blind" and it would be nice if they could have an estimate ahead of them. What to expect CBCT cost. Does the Endodontist accept their insurance? Insurance network participation.
- **Endorsement/reputation** (9) Explaining that this is the specialist I would use for myself. My confidence in the practitioner. If I refer my patient go because they trust me. Showing confidence in the specialist. My specialist has done procedures on my family and my teammates...and I trust him with the people I love. My personal experience seeing the good work that they do/did on my other patients. That I would see that endodontist if I needed a root canal and technology has improved beyond the bad reputation that root canals historically had. My experiences and stories of other patients experiences as well patients checking with friends about the friends experience. Reassurance that I have gone myself to visit the practice and see first-hand the treatment and care they provide.

- P**atient orientation** (7) Telling them what the step after the root canal is (if they're returning to me for the crown, etc.) Potential outcomes of their consult and treatment - i.e. potential that the root could be cracked and tooth cannot be saved. That they will be routinely given 3 choices by him and not to get confused. He will be giving them options of do nothing, extract, or RCT. I try to make sure that does not confuse them. Many of our patients do not speak English and do not even understand what ROOT CANAL means. Typical flow of appointments, how many they can expect. Treatment expectations.
- **Availability** (6) Many endodontists have a 2-3 week wait. Appointments as in normally they can get you in quickly. Be seen quickly. Ease to make the appointment and get schedule Timely appointments.
- **Skill/competence** (3) Endo in general has higher level of mastery to deal with complex roots. They need to be well equipped for a specific purpose to achieve the goals of the treatment, very motivated to save the tooth. Does the doctor understand AIRWAY?? Their skilled work and patient satisfaction.
- **Logistics** (3) Directions to office. Maps. Information about location.
- **Relationship** (3) working relationship with endodontist; I have never received a phone call ever even when I give them my personal number. Personal relationship with the endodontist. That the endodontist speaks kindly of my practice and is not a corporate participant.
- **Back-office considerations** (3) Paper referrals. Paper referral form. Secured email sent ASAP/physical copies in large envelope with printed photos, intra-oral images if any & endodontic referral form given to patient.
- **Practitioner communications** (2) Communication with me after each case. I know them and they will contact me if there are any questions and or concerns.
- **Other** (2) Getting them profoundly numb. Communication and explanation are key

What other factors have you found helpful building a reciprocal relationship with endodontists?

- **Communications** (6) Receiving a report after the procedure including any complications, concerns, or additional treatments performed (temp placed, orifice barrier used, P&C or buildup placed, resorptive repairs completed) are very important because we can discuss these things when we see the patient again. Communication, phone calls. They would call. Need direct communication.
- **Contact** (5) Knowing the endodontists. Meet up occasionally. Specialist hosting social function. Taking the time to get to know me as a person (lunches, dinners, etc.) Come into the office to provide CE for providers and staff. Seminar education is very useful.
- **Personality** (4) Ethical, considerate, gracious, professional behavior. Not someone like [name]. That practice is very arrogant and unfriendly to dentists "not in their circle." When they are kind, caring practitioners.
- **Staff** (2) When my receptionists feel like they're buddies with the endo's receptionists. Friendly staff.

- **Techniques** (2) They follow my referral and don't go beyond what they were referred for (at least not without letting me know first). If composite resin restoration can be placed, and we request that treatment to be completed in our referral, it is best for the patient and the tooth to have that restoration placed at the time of endo with the endodontist. Some of our referral endodontists do not subscribe to this and will refer patients back to us to replace their temporary restorations with composite. This is a waste of the patient's time and, in my opinion, opens the tooth up to increased endo failure since the endo treatment is "unsealed" and opened again to place the restoration.
- **None** (2) I have relationship and trust my endodontist. Relationships take time. I currently do not have a reciprocal relationship with an endodontist.
- **Other** (3) Summary: do good work, meet dentists, send us good feedback, and treat patients nicely. send the office gifts or lunch. take HMO or Medicaid insurance. Knowing that they keep EMERGENCY SLOTS open for possible same day treatment if I send someone there. Reasonable cost to the patient and flexible scheduling.

In your experience, what are the most effective ways to learn more about endodontists in your area?

- Have a RCT performed by an endodontist on myself. There's only one. Ask other dentists who they use for endo and their opinion of those endodontists. I find the prosthodontist is a good source of information.

What could endodontists do more effectively to increase referrals from dentists in general practice?

- **Outreach** (27) Be more visible. Be part of the community, reach out more. Call us. Be very responsive. In person visits. Continued engagement with general dentists at local meetings. Host an open house/social event at their offices and invite local dentists and staff. Reach out and start to make connections/relationships with providers in the area. Reaching out personally. Reaching out to general dental office to introduce themselves. Come to local dental meetings and be willing to give short presentations regarding current best practices or case studies for the group. Let me know you are in area and how far you are from office. Most patients are territorial and prefer to stay close to home. Make themselves known. Meet and introduce. Visit offices more frequently. Visit our offices,-stop by to say hello. Visit GD more in their office, provide more CE related to endo. Visit the office and introduce themselves. Pick up the phone and call. Meet general dentists face to face with introduction and small talk. Personally visit and reassure treatment philosophy. Networking/social events, Endodontists visiting my office. Giving me opportunities to observe their work in practice. Seminars & visits. Be more involved in the local dental society and offering CE. We got to know endodontists' philosophies and their personalities well through this and they were very professional.
- **Availability** (18) Be available for emergency patients, available when needed for emergencies, let their referring doctors know that they are for anything. Accommodate same day emergencies. Ability to handle patients fast enough. Be accessible for questions. Early availability. Able to be seen same day to get patient out of pain. Help a dentist by seeing the patient in a timely manner, especially if the patients in pain. Have emergency openings available for patients in pain. Have more chair availability. Work emergencies in. Quick availability for patients to get in. Treat my emergency patients immediately (same or next day). Treat patients compassionately in timely manner with excellent results, communicate well about cases. I appreciate referring to practice with >1 endodontist, because they are very likely to be able to get my patient in quickly.

- **Relationship/communications** (16) It's all referral-based so form relationships. Follow-up after doing referred treatment. Build a relationship with the Dentist (communication). Build relationship with our office. Create a good relationship with easy communication. Find a way to get in front of doctors to speak face to face and build a relationship. Be willing to communicate and give out phone number. Good communication before and after procedure. Get to know the general dentists. "Golden rule": treat patients and referring doctors with respect and compassion. Take time to get to know each other, perhaps find a time to go out to eat together. Try to connect and maintain communication regardless of immediate results from a general dentist. Keep reminding what they are passionate about in supporting their success for their patients. *Think abundancy and offer encouragement to GP's in regards to doing endodontic treatment themselves.* Most will try a few more, but end up referring more when the GP knows you're interested in their success and the success and help of the patient. Inform about practice philosophy and standards. Get to know them. easier to refer to a friend you can trust because not worried about being judged.
- **Education** (7) Educate dentists willing to learn. Help educate DDS in new endo things. Have study clubs and lectures for the general dentist to learn more. Help dismiss the fear associated around RCT treatment. Maybe study groups or CE to show cases endo sees. Show Cone beam scans where they can see so much more. Education on things like resorption, how to identify and why important to send to endo. I do like it when I meet a specialist too and can talk to them. Office CE course/learning experience. Information about case selection. At the end of the day most GPs don't know what they don't know.
- **Quality of work** (7) Do excellent work. Clear post op report. Take good care of patients and provide quality care. Endodontists I work with are very good about sending post procedure reports although some could be a little more detailed. Take care of patients to the highest level and do exemplary clinical work. Treat my patients right. Be good at what you do.
- **Contact** (6) Regular visits or phone calls. Communicate with us. Cover services/availabilities to doctors in area. Communication is key; introduce yourself if you're new. Talk to me once in a while; come by and say hello.
- **Reports** (5) Provide timely updates on patients that you have referred to them. If it goes right follow up, if it doesn't go right follow up. Don't make excuses, it's not necessary. Be honest and discuss the good and the bad. Send reports to GP. Timely reports and communication. We have one Endo office who does not send us final x-rays, making it difficult to get crowns authorized by Medicaid. We end up having make the patient come to take our own x-ray.
- **Cost/finance** (5) Be willing to work with low-income Pts to make payments and cut fees. If they must come up with fee up front, they will just come back to me for EXT most of the time. If we can't do endo the teeth are lost. Being dental insurance network specialists. Lower the cost. Participate in insurance plans. More financial flexibility for patients that cannot afford the treatment with specialist.

- **Personality** (4) Be caring and be a good partner in patients care. Be a team mate. Say thank you. Be nice.
- **Refer back** (4) new patients to us, patients who are looking for a GP to us. Send referral forms to us to give to patients. Send them back motivated to do final restoration.
- **Treatment/techniques** (3) Accept MCD for permanent teeth of patients under 21. Only improvement would be to have more collaboration on treatment outcomes; very satisfied with our local endo and the care they give our patients. Promote post restorative treatment
- **Marketing** (3) Send Intro/Referral packets 3-6 months to surrounding DDSs. Join and market themselves to local dental organization. They can organize events to invite GD in the area and personally coming and talking about new techniques and procedures.
- **Demonstrate competence** (3) Show cases. Show quality in their work. Do a superior job, one that is far better than general dentist can imagine doing.
- **Poor performance** (2) Any of the things mentioned above; they have been ineffective as they are NEVER done. None of my endodontists outside of one office really reach out and the endo office has front staff reach out so I never really get to chat with the actual endodontist so it feels impersonal.
- **Knowledge/skill** (2) Know more about facial pain, pharmacology, medicine than GD. Possess high level of skill.
- **Patient awareness** (2) Patients don't know root canal specialists exist or the person doing their endo isn't a specialist. Orthodontics had this problem first, then perio, now endo. Instructional aids would be wonderful.
- **Other** (7) Don't speak ill of the general dentistry like [name] does. Young dentists have so much debt that they feel they have to do everything that walks in the door. Corporate practices do not refer out. Understand AIRWAY We either need to be taught more in dental school how to do endodontics or there need to be more endodontists out there. Improve working relationships with general dentists. I appreciate the option for the endodontist to place the buildup if it's a treatment accessed through a crown. We have a network of offices we refer to and have been happy; only thing that would change is if a new endodontist moved into our towns which would reduce travel time for patients. Presently we only have one endo office within 10 miles of our office which offers hours 3 days/week.

Comments:

Endodontists

Survey comments were categorized by their topical area below. Generally punctuation separates the comments of different individuals responding to the question.

How important do these factors seem to be when a general dentist refers a patient to you?

- **Availability** (19) For same day emergency treatment, to see the patient ASAP, for emergency. How quickly can the patient be seen, to relieve symptoms. Emergency availability and availability in general. Timeliness of accommodating patient's in pain. Timeliness of availability for treatment (getting in same day or soon for treatment). Same day availability. Speed of treatment. some GP's may take several hours and added appointments to complete what we can do in one appointment. Availability to see patients quickly. Time available. How fast we can get them in to see the patient.
- **Insurance** (18) Do we accept patients insurance. Are we in network with their insurance. An extreme problem that would I love to see remedied is insurance reimbursement for CBCT imaging because my colleagues do not consent to root canal treatment plans without having that obtained prior to treatment initiation. Insurance accepted. Insurance driven- Delta dental cut our reimbursement fees significantly. we went out of network with delta dental and it has greatly hindered the amount of patients who are referred to our office. In-network insurance. Insurance needs of the patient; our office has been out of network and fee-for-service for several years. I am a Delta provider. We dropped insurance 2 years ago and that affected our patient referrals. What insurance we take. My practice does not participate still in any insurance; patients are choosing to see endodontists who take their insurance as full payment.
- **Nature of case** (12) Difficult diagnosis. Any case that they cannot or don't want to do regardless of difficulty. Or when an iatrogenic error has been made that needs to be corrected. Large lesion, re-treatment. Not sure of anatomy. If Patient prefers specialty care. Small mouth opening. CBCT to examine for fractures or resorption or restorability. Attempted treatment with separated instruments. I like to know if treatment was initiated by the GP. Have they made some effort to assess the situation. Is it obviously endodontic? Acutely infected. Need of IV sedation. Dental trauma.
- **GD workload/skills** (11) General dentist's busyness. General Dentist does not do root canal treatment. General dentists comfort in performing RCTs (some GPs do not feel clinically comfortable doing RCTs, send all cases out.) General dentists skill level. General dentists take a single course and become endodontists overnight---difficult corrections come my way. The thrill is gone; general dentists and DSO-hired "superdentists" as generalists, do endo. If the general dentist has time to treat the emergency that day, if not will refer. General dentist's background, training and understanding of the complexities of pulpal/periapical physiology. Some of our referring GD's are not equipped to perform endodontic treatment and refer 100% of their endodontic patients to us. Whether the GD does any root canal at their office. Young dentist in corporate offices are referring because they can't treat the patients fast enough for reduced insurance rates.
- **Location** (6) distance, location to their general dentist and/or their home, location of practice, convenience.

- **Referrers attitude** (4) Mostly dentist's comfort level in treating; our top referrers do none of their own endo. General dentist's degree of humility and knowing their own limits. General dentist's attention to quality over monetary gain. They keep making excuses to patient. Instead of saying endodontists has more knowledge and skills to do the work, they tell patients that they just have better equipment and tools such as microscopes. One extremely rude prosthodontist refers us about one patient to our practice per year, and he always tries things that are beyond his scope. He masses up the access, near perforation, and ledge all the canals, and as he sends the case, he tells our office he's done most of the work so it should be easy for us to do the rest.
- **Patient characteristics** (4) Age: we tend to see really young. Patient systemic disease drives some referrals to an endodontists. Patient's medical condition. Complex medical history, diagnostic dilemmas.
- **Nature of practice** (3) DSO keep in house due to their rules. New dentists from schools with no specialty depts don't know how to refer well. They are super dentists. Corporate general practices hire traveling endodontist 1-2 days each week to perform treatment rather than refer out. Non-corporate is a huge deal in this equation. Patients and solo general dentists would like to be seen by a non-corporate entity with a more personal feel.
- **Dentist's background** (3) Dentist's treatment plan. Experience of the doctor. New graduates refer more endo.
- **Quality/history** (3) Patient good experience and efficient treatment. Prior patients reporting positive experiences. Prior referral experience.
- **Relationships** (3) General dentists' relationship with specialist. Relationship with the general dentist. Relationship with the referring office.
- **Patient education** (3) Have confidence in endodontic treatment before prosthetic restoration. Educating the patient how Endo treatment is microscopic and detailing gives the patient the benefit of having his natural tooth with him long term, thus helping natural tooth to be the best implant. Patients asking advice from us about their referring doctor, then they go back and tell their doctor what we advise that may be different than what the dentist wants to do.
- **Technology** (3) Use of microscope / dental litigation / recent crowned tooth. Use of microscope and need of endodontic microsurgery.
- **Market/community dynamics** (3) Many will send a general referral with all endodontists in area listed on it. And they have the patient shop to see which price suits them or if in or out of network. We are fee for service but 2 years ago another endo came into town and is in network with all dental insurance carriers. We now have patients who cancel with us once they learn another endodontist is in network. He is booked out and we can get patients in sooner. A third endodontist is about to open and may further weaken our relationships. Referral patterns in Colorado Springs seem to be driven almost entirely by which endodontists are in-network with insurance. It is an insurance driven culture here, which is very regrettable.
- **Other** (5) Communication with office. Sedation. All difficulties in cases increased. GP tending to try/do more complex cases as economy gets more stressed due to our brilliant leadership. Any pending claims. Repeater.

Another dental specialist or general dentist

- General dentist GP limited to endodontics GP-Endo limited to specialty There are still very few patients. If we don't offer other treatments, we will go bankrupt.

Which best describes your practice?

- 2 doctor solo 2 endodontist practice. One office. Chief Dental Officer of a DSO exclusive to endodontic corporate dental specialty practice in a hospital system DSO (2). Associate Endo and Perio private practice. Endo group practice Independent Contractor (4) Military Endodontist and Private Practice specializing in endodontics (part-time) Myself and an associate Occasional locum work Partnership Retired in practice still teach in dental school Solo part-time Specialty clinic Teaching Traveling endodontist Traveling to GP offices.

What factors have driven your recent increase in referrals from general dentists?

- **Marketing** (44) efforts, since I joined the practice, in person, in the form of seminars, direct contact between either the doctors or practice manager with ref docs. To their practice with food treats, marketing material touches. New office marketing. Social media diffusion, small marketing. Online presence seems to be a factor. Hiring a full-time marketing manager. Positive Social Media Presence. Internal & External Marketing. Consistent Marketing. Google reviews. Door to door marketing and study clubs. Physical marketing. Google review. Branding. Instagram and mail. Long term follow up success posted on social media. Increased marketing efforts with newer dentists and improved relationships with dentists after we had an endodontist in the practice retire.
- **Availability** (39) of appointments and increase in population. Being available and reachable via phone. Being open and available more. Seeing patients quicker helped. How quickly patient can be seen for treatment. Staying late for emergencies. Fast reaction time. Especially for emergency appointments or urgent treatments. Ability to accommodate more patients and getting patients in within 24–48 hours. Ability to get them in same day. Ability to see emergency that day. Able to see emergencies. Being able to see pts quickly. Accessibility. Shorter wait time than other endo practices. Being present. Taking emergency patients. Ease of appointments. Just making more appointments available. Timeliness of accommodating patient's in pain. Timing: we have availability sooner than their regular referral. Promptly seeing a patient. Ease in getting patients in. Timeliness. We have daily openings on our schedule for emergencies. We treat the patients very well. They report back to their referring dentists. It's a virtuous circle.
- **Insurance** (34) In-network with some insurances my competitors aren't. I'd rather be busy for less reimbursement than sit around being unproductive. If the practice or patient is heavily driven by insurance, they are less likely to work with us. Insurance accepted, coverage (unfortunately), network, participation, plan, we take Medicaid/Medical Assistance. Insurance sends many here instead of where the gen dent sent them originally. Accepted another insurance/carrier. We have a loyalty benefit with Delta Dental; many others have dropped this insurance. Participation in dental insurance plans, insurance networks. I still work with insurance plans and my competitors have changed to mostly cash-based practices. Dental plans accepted. Every once in a while, an insurance patient, who was initially referred to a different endodontist ends up in our office because that other office did not accept the patient's insurance and we did, and patient luckily found us on the list of participating provider lists on the insurance website. This makes up the 1% non-referred that we see. We would also do good follow-up with the new doctor introducing ourselves and providing them referral cards. Most likely insurance driven (we accept an insurance that competitors don't). More specialists are dropping insurance, so being an in-network provider for their patients. I am Delta Provider other Endos are cash only. In-network. Insurance participation. Other endo group in town stopped taking certain insurances. Other practitioners dropping delta. We take most insurances.

- **Quality** (21) and timely care, quality-driven and independent non-DSO practice. Quality of care of our office vs in network offices. Quality of treatment, work. Success rate, I guess but my capacity is quite limited. We are really good at what we do. Customer service and high standards in quality of treatment! Doing good job. High standard of care. Excellent outcomes. Expectation of a higher level of care. Earning their trust by treating the first case with ultimate finesse is of utmost importance. High expertise. I do build ups on all teeth that I treat. Taking good care of patients. Provide technically good treatment. Appreciation for personalized, quality care in a non-rushed, one-on-one environment. Maintaining same quality of care. Pain free. Other patient's experiences, outcomes in previous treatments. Perceived quality of treatment and outcomes.
- **Patient** (17) Report back that they have a good experience so GD continues to refer. Patient awareness! Patient clinical conditions and personal characteristics. Patient requesting treatment by a specialist. Report good experience to their dentist, they continue to send other patients. Reporting their experience back to their general dentist. Patient feedback to dentists. Depends on the dentist: we get more self-referred patients than we used to, they get a referral from their GP, but request this, people do their own research I think more than they used to and read online reviews, talk with friends rather than taking their potentially young, new practitioner to their advice. Positive patient reviews. Taking time with the patients to explain. Overall patient satisfaction. Feedback from patients of a pain free experience. Positive patient experiences. Pediatric patients and hardly any competitor will see a certain age or below. Patient rapport.
- **Word** (12) is getting around, young dentists refer more patients, word of mouth from other colleagues at lectures, from patients, referring dentists, patients, and providers very happy with treatment. Good reputation. Mouth propaganda.
- **Communication** (11) close communication and follow-up with referring dentist. Effective communication with office. Maintaining communication regarding their patients. Quality of communication to both office and patients. Personal communication. Maintenance of good communication.
- **New dentists** (10) in area, less trained in molar endo, newer graduates are coming out of school with less experience and confidence in endodontics. Younger general dentists inexperience and dislike of root canal treatment. GDs doing less endo. More dentists in the area. More recent grads who don't feel comfortable doing endo. Increased reach out efforts to newer young dentists in the area.
- **Relationship** (10) dissolved, with the dentists, delivering referral baskets and face time. Personal relationships. More rigorous networking. Meeting up with referring dentists. Education and mentoring efforts. Good relationships. Building good relationships with the general dentists.
- **History** (10) My experience. My reputation. Trust. Reputation. Popularity. Good reputation for getting patients in quickly. Longevity of the practice and good reputation. Gaining a reputation to do tough cases with complex restorative. They've increased mainly due to greater trust in my management of complex cases and consistent communication with referring dentists.
- **Technology** (8) CBCT, Microscope, Gentlewave and Laser. Advanced treatment protocols and technology. Our new tech allows us to be more efficient. Using current technology.

- **Adding staff** (8) Becoming a two-dentist practice. We brought in a 4th endodontist three years ago to help treat patients sooner. New endodontist has been well received. Hiring more associates, expanding existing office and purchasing a second location. Increase in size of practice. Bringing in a dentist anesthesiologist which allows me to treat patients few other endodontists can accommodate. Possibly newly hired endodontist and their friends and other networks. Increased availability due to new doctors being added to my practice.
- **Outreach** (8) Lectures. Continued engagement within our local referral community and involvement in local study clubs and societies. Conferences and presence in general hospital and dental faculty. Meeting new people. Office visits, gifts, and phone calls may increase some but do not seem to influence a new referral. Attending local dental society meetings. Interactions. We celebrate holidays with *our* referrers.
- **Market economy/industry structure** (7) Changing micro- and macro-economic dynamics, DSO overtake of specialty practices. Population growth. Dip in the economy. Decrease due to many more new/younger dentist moving into our area and increase in DSOs. Dramatic increase in population. Newer affluent area where general dentist offices are opening up around our endodontic practice. We always get patients in when they call us (we will never turn someone away who is in pain and needs to be seen).
- **COVID** (7) pushed us back and we were still trying to catch up. It was over. Dentists are getting busy again after the slowdown years ago. Dentists retiring after COVID -19. No treatment for many months due to covid. A lot of GPs that were trained during Covid got very poor experience with Endo. Poor health system following pandemic / skills of GDP reduced.
- **Turnover** (6) Two endodontists retired in our area recently. Practice is only 2 years old. Retirement of previous peer general dentists and building trust with their replacement younger dentist. New practices opening and old endodontists retiring. Change of ownership of the general dentist's office. Changes in the practice dynamics of the referring offices.
- **Nature of cases** (6) Case difficulty. Complex cases. Patient's desire to retain the tooth. Cracked teeth.
- **Visits** (5) dentist by me, visiting offices. Relationship building. Networking with dentists. In person meetings.
- **Capabilities** (5) My IV sedation permit. General dentists trust my ability and skill. Languages that we speak. Referrals are aware that I have recently completed my master's degree. Holistic approach.
- **Demand** (4) Growth in the area. Growing population. More patients in pain. Some individual doctors fluctuate (they will refer poorly for a while then well for a time, then poorly again). I wish I knew what made them tick :)
- **Location** (4) Convenient location of practice. Expansion to a new location. I'm the only Endodontist for hundreds of miles. New office, signed up with the VA.
- **Patient volume** (3) Seeing decrease and suspect it is economic; most referral offices have not been as busy. Patient volume is down.
- **Cost** (3) Our price remained the same of 2 years now. Keeping costs reasonable for average income in area.
- **Public awareness** (3) Endodontic treatment is becoming more and more popular. I think more patients are aware of us as a specialty nowadays. Value of a specialists skill and expertise.

- **Division of labor** (3) General dentists are very busy and less time to perform endodontics. They are busy. Lack of clinical experience.
- **Competition** (3) Few endodontists here. Retiring competitive endodontist. Many new offices opening in my growing area.
- **Techniques** (2) More crown preps especially zirconium. Painless treatments and conservative approaches.
- **Soft skills** (2) Customer service and patient experience. Compassion and empathy.
- **Intl** (2) Canadian dental care plan. CDCP Canada Government administered Dental Plan.
- **Efficiency** (2) in treating very difficult endodontic cases successfully. Efficient appointments
- **No change in referrals** (14) Increase because I work in a new group practice in another town, decrease because I gave up my own practice and work now only for a day. (Partial retirement.) Referrals from general dentists have stayed about the same.
- **Decline in referrals** (11) due to increase in other endodontists in area. Not applicable, a net decrease. Constant poor attempts by GD inadequate root canal treatments of molars and premolars. That's a frustrating situation I'm seeing more often now that there's increase of corporate/DSO offices. 2 new endodontists moving into my community. I don't think there has been an increase per say but it's always dynamic. Referrals have decreased significantly.
- **Other** (13) Finding a trend is very difficult in my opinion. I joined the biggest practice in Australia under the one roof. Convenience. Better able to assess case difficulty. Getting good feedback from the patient after the treatment. Were able to reset and refresh our overall approach. Making presentation on various conferences. Offering CE events, lunch and learns, adding insurance programs to the practice. Skillset (ability to perform endodontic surgery). Detailed and professional reports, good communication between offices and doctors. We actively communicate with our referring dentists to ensure their expectations are met. Consistency of services. A problem today in schools or perhaps work practice encourages GD to do everything possible. I speculate it has created more problems and unnecessary subsequent care concerns which confuses people about success rates of endodontic care by GD. Molars and premolars should be ideally only cared for by endodontists.

What factors have driven this recent decrease in referrals from general dentists?

- **More competition** (8) in the area—closer endo practices open. New endodontists in area. Other endodontic practices being more convenient or closer. Other endodontists entering the market. Bringing in an endodontist to their office. Doctors with special interest in Endodontics going from practice to practice delivering cheap endo.
- **In house** (8) Some dentists wanting to do their own. They are now exposed to clinical training. Need to produce income for themselves and or the DSO. Hiring associates that do endo. DSO. One due to personal reasons (hired an ex-employee). Private practices being bought out by corporate dentistry. General dentists wanting to perform endodontic treatment themselves.

- **Insurance** (6) Dropping one major ins carrier. In Network Insurance Coverage. Not being in network with insurances. Some patients not wanting to pay fee for service and go somewhere that is in network with insurance. We are fee for service, so some heavy insurance offices struggle to refer to us.
- **Cost** (5) of treatment
- **Economy** (4) drivers affecting referring offices patient load
- **Staffing changes** (4) Loss of associate Dr. Office upset with staff that no longer work with our office. Practice transition. Poor associates.
- **Retirement** (4) of some strong referrals. Dentists retiring and new dentists establishing themselves.
- **Personality** (3) differences. Transparency with patient regarding the quality or status of care they recently received (old dentist that should have retired due to decline in skills but he will not accept it). Not knowing a GD's preferences (e.g. oral surg refer, perio refer, restorative)
- **Specific cases** (3) Some due to differences in treatment planning. Errors in cases/communication. Upset patients.
- **My availability** (2) Not being present
- **Nature of cases** (2) They've decreased mainly because some cases are no longer salvageable. Poor cases.
- **Other** (3) Location of endodontists closer. Marketing and meeting up with referring dentists. Dentist thinking they are more skilled than they are.

What other patterns do you see in general dentist referrals to your practice?

- **Retreatment cases** (36) 2nd/3rd molars, needed in teeth the GP tried to finish, more retreats from DSOs. Retreatment have increased. Only for complications for GP endo enthusiasts. Retreat of previously initiated & resorption. Retreats, retreats, retreats. They attempt treatment and refer when get into trouble. Referral of procedural errors by general dentists. When they fuck up! And the vast majority of GD's understand very little about endo diagnosis. General dentists treating far too complicated cases (anterior, premolar, and molar) that should have been referred in the first place. Retreatment of substandard initial endodontic therapy. I am being asked to do final restoration. Fewer retreats than I anticipated. Retreatments with posts. Referrals for retreatment of cases previously inadequately treated by a general dentist within the past few years. Send after they've attempted/treated/mismanaged. Simple cases are handled internally, difficult cases are referred, sometimes even started, and if no progress is made, then referred. Patients that had some type of dental error, so the dentist was working on the tooth and had a complication. Re treatment—nonsurgical and surgical. Increase in number of general dentists that are referring after attempting to perform root canals. Increase in failed attempts at endodontic treatment. Many are just extracting a tooth and replacing it with an implant instead of retreating. Sharp increase in NS. Significant number. Increase in retreats some months later. More referrals for cases with previous treatment failures.

- **Nature of cases** (34) Increasingly complex cases. Increases in difficulty. Just much harder cases. Seeing more access the tooth then realize they can't treat it and refer. More cases started and then referred. More cases with questionable restorability, advanced resorptions, root fractures. Less retreatments and surgical cases.

  Help with broken instruments or finding canals. More retreatment cases. More cases that are untreatable. Very few straightforward endodontic treatments. Deep narrow periodontal pocketing, prior treatment initiated and referral due to internal crown cracking. Pain diagnosis. Pain of non-odontogenic origin (referring to our practice to rule in or out odontogenic pain). Pain-available. Post and cores! Patients that have not have caries removed and restorability hasn't been determined. Separated Instruments. Calcified Canals. Extreme pain. External resorption. fractured teeth. They are always upper molars. They send the hard ones. Some refer retreatments or 2nd molars only. Root canal started and not finished. When they don't want to tell patients that their tooth is not savable. Questionable restorability due to possible fractures, unable to diagnose source of pain. Placing post/core. Previously initiated cases, too calcified to complete or inadequate anesthesia. Public Health clinic: mostly SIP SAP, pulpotomy, pulpectomy for pain relief. Nonodontogenic pain complaints. More referrals for the treatment of cracked teeth. Pain management. Traumatic tooth. Open apex teeth. Separated files of previously initiated cases. Calcified, transported, and pledged. Refer when they have initiated treatment and there is a problem.
- **Insurance** (23) needs, driven, drives everything, the primary criteria for where offices refer. Insurance based referrals. They give patients slips for every office. Patient then decides based on insurance. Asking about fees and insurance. Based on insurance. Patients have state insurance. Patients who can't afford treatment. General dentists are largely driven by insurance. They will refer patients based on the patient's insurance carrier, not based on the best provider. I dropped Delta Dental as they cut my fee by 35% and many referrals dropped off. Referrals based on whether or not I am "in network" with their patients' insurance plan or not. What insurance is taken has a big effect. Patients end up at corporate offices with sub-standard care because they accept their insurance, although they have been referred to a private office. Primary: insurance needs of the practice/patient. Increase in patients self-referring from insurance provider lists vs. direct referrals from GPs. Both new endodontist have opened with contacts to insurance companies. Dentist often refer to others in their same network.
- **Patient issues** (20) Anxious patient or patients who have delinquent accounts. At times patient poorly prepared. Character of patient. Dental litigation-complaining patient. Some trauma. Trying to convince patient to have an implant and I do the selling. Some with challenging restorative needs. Harder to manage, with complex health issues, or anxious. More difficult patients from behavior standpoint. More extractions—> implants. Gagging patients. Patient requests a referral from their GP. Older patients with extensive and complex medical history taking a lot of medications. Older patients with increasing medical issues. For emergency or severe pain because they can't get into their regular endodontist. Extremely difficult patients to manage. Elderly medically compromised patients ,anxious patients. Trauma, root resorptions, endo-perio lesions, calcified canals, iatrogenic errors, cracked-tooth syndrome, atypical orofacial pain, microsurgical root canal retreatments, and family members/friends. Patient with special needs and high anxiety.

- **Impatience/speed** (18) Want me to help them with their emergencies ASAP. If the GP gets tired of do endo treatment, we offer same day treatment, N2O. If they are busy. increased urgency cases. Speed to be treated. We see emergency patients daily for our general dentists. How fast we can get the emergency patients in. How fast we can get their patient into see us is extremely important. Patients are demanding with their needs to be met on their timeframe without regard to the schedule. Emergencies. Emergency patients or patients whose symptoms have not subsided or difficult diagnosis or re-treat. Emergency treatment. Patients needing to be seen right away. We are open Saturdays; this is somewhat a factor. They want their patients seen very soon, and of course, treated well. Dentists want their patients seen ASAP. If we cannot get them in right away some dentists will refer elsewhere. Even if I can get someone in the same afternoon, they will call round for morning appointments elsewhere. An uptick in referrals from corporate owned practices who cannot see patients same day. If they have a traveling endodontist who comes to their office once a month, then they are sending all others to our office as they do not have enough coverage for the other days that their patients need endodontic care. Ability to see the patient within 24 hours. Ease of appointment and how fast their patient can have RCT, provider preference.
- **More in-house** (18) In Utah they try first, then refer. They do way too much Endo and sadly, most don't do it well. Many want us to have a satellite office at their practice wanting to keep all treatment in house. More DSO keeping everything in house, to detriment of patient. More GDs doing endo treatment. More general dentists are extracting and doing implants. Marketing, they believe they are good at endo with the new files, sealers, and cleaning capabilities. When the practice has an "in house" endodontist that cannot fit their patient in the schedule for several weeks. When general dentists get slower, they start doing or attempting more endo and I do more file removals. Corporate places refer less when they get in house Endos. They don't want to do RCT because it takes too long and the pay for GP is low. They hire an endodontist and receive higher pay and keep everything in house. They do everything possible to keep cases in house, corporate is driving a new standard. General dentists try to keep nearly everything in-house. Many of them are trying to do their own re-treatments and even a few that try APICOS. Existing practices hiring young associates to do endo in house. Too many GDs hiring endodontists to work in their offices instead of referring. More GPS have moon lighters coming to their office, keeping endo in house. More dentists are in corporation structures that prefer to refer "in house" to someone who takes care of the root canals. Reduced referrals due to increase number of available in-house endodontists.

- **Lower-quality GD care** (12) Clinical IQ has gone down. I am doing way more retreatments. Crown margins are usually compromised. GP just doesn't know what is going on (resorption, discomfort, etc...) They are fickle, getting worse. When they don't have time to see the patient, don't know which tooth it is or a difficult patient to work on. Quality of referrals has degenerated. We now get more referrals from newer or less well-trained general dentists who do not seem to be able to assess restorability and some of whom do not understand sequenced treatment planning phases (first getting active disease under control before definitive treatment). Patients are sometimes referred when they have multiple teeth with active caries that have not been stabilized. Others seem to not appreciate that there are other causes of orofacial pain besides endodontic. Poor levels of diagnostic ability of general dentists. Lack of skills and low price for Endodontics for GP. Most general dentists do not understand coronoapical leakage, eventual complications with pulp capping mature teeth, and a complete lack of understanding about biologic width due poor subgingival margins with perio inflammation, especially since the abandonment of gold crowns and digital impression taking. They are more concerned with cosmetics than biocompatible margins in enamel. Most zirconium crowns are absolutely horrible. Other dental problems that they can't figure out. Lots of separated files from them and I see myriad failed thermafil-treated teeth. Is it possible to campaign against the carrier-based Endo approach by GDs? They should at least be taught to not do that if they'll be attempting RCT at all. New grad practitioners sending cases because they did not get enough cases in school. Some schools only have one case to graduate.
- **Turnover** (12) Young dentists try to do everything. Younger dentists keep in house or refer to younger endodontists. Earlier-career dentists tend to be more drawn to the technology aspect of my practice and value quality restorative work being performed at the time of endo treatment. Younger dentists refer less and females refer slightly more. Seem to refer more and more often now, as compared to years ago. Want to try to do more root canals than older dentists. Have been influenced by Sales Representatives and Consultants to try to keep endodontic treatment in house. Mid treatment referrals with younger dentists. Old DDS retire and DSW's take over. Increasing turnover in general dentistry associates. Many older dentists are retiring and the younger dentists are trying to complete more root canals on their own.
- **Relationships** (10) I have developed some relationships with dentists and they are my good referrals, but others I can't even get them to the phone when I call or to come out and say hello if I stop in their office. In the Pacific Northwest, with an increasing Asian population dentistry, Asian general dentists prefer Asian specialists. After 40 years in practice some of us feel we missed the CE course on the 'Secret Handshake.' GP s refer to any endodontist, not much of a preference anymore. General dentists seem to start and stop referring based on virtually nothing. The patterns are difficult to understand. They are less social and it is hard to get them out to PR events. Relationship with practice owner. Secondary: personal relationship with the referring office. Later-career dentists value long-standing relationships with specialists whom they have worked for many years and do not seem to care about microscope/3D imaging/restorative work/etc.

- **Diagnosis** (10) Diagnostic dilemmas. Not properly diagnosed cases. Incorrect diagnoses/poor prognosis. Lack of proper referral/info from general dentists. Verification of vitality or condition of tooth, nonodontogenic pain and lesions. Second opinions.
- **GP clinical preferences** (9) A lot of them would rather take out a tooth and do an implant instead of doing a root canal because there's more cost in involved with an implant and crown. GD prefer to do their patients Endodontic treatment for anterior teeth and sometimes premolars. They refer the molars or call-in a in house Visiting Endodontist to do molar RCT .Female dentists are more likely to refer. Female general dentists refer more endo than males in our area. Expectations for us to determine restorability of teeth, lack of caries excavation, unsure of treatment, then just refer. I am being sent relatives and friends of my referring dentists and patients difficult to manage. Very few of our referring doctors perform endodontic therapy so most are fresh cases. Many understand the value of our diagnostic abilities, including utilization of CBCT imaging to assist and demonstrate tangible findings. Less knowledge from the general dentists. Many general dentists recommend extraction vs. retreatment in an otherwise restorable tooth.
- **Difficult patients** (9) difficulty in mouth opening. Less education prior to patient arrival for treatment. They have general disorders such as diabetes, high blood pressure, osteoporosis, and so on. They sometimes have strong spontaneous pain and swelling. Patients that the dentist may want to " get rid of" Pt's who are certifiably crazy. Systemic issues. We also receive patients with serious health conditions. Do not want to deal with sedation or an anxious patient
- **Less referrals** (8) New business owners will usually try to keep most endo cases in house. New dentists seem to refer less. Doing their own Endo. In a general group practice, I do the major part of our own cases, who normally are easy to moderate. Lack of loyalty. Some of these general dentists will not refer cases to you because they are already satisfied with the currently referring doctors. If so, it's extremely difficult to win their heart regardless of how good your work is or how much effort you put into it. Referring less-and-less. They tend to do as many cases as they can, even ones that should be referred to begin with.
- **M&A/competition** (7) Becoming gobbled up by PE. Aspen, etc. Too many endodontists. Too many PPOs due to saturation. Too many DSOs. Ruining the insurance climate. Dentists join DSO, then discontinue referring as they have in house dentists who attempt to do all endodontic procedures and if they cannot, they extract and place implants or FPDs. They refer less to me as a group practice. The patients may stay. We see patients from other offices who are not happy with their prior endodontic experience of a close competitor, and this has also allowed us to gain more referrals. Often or will be referred to another practice but the patient will either choose to see us because of poor reviews at other office or we can get them in faster. We just had 2 new endodontists move into our small town so that makes four groups in a small Midwest city.
- **Pediatric patients** (5) Young patients under age 18. Kids with deep decay that they are too afraid to treat with pulp caps. Diseased Young permanent teeth.

- **Specific conditions** (4) Apicoectomy / oral surgeons have essentially stopped providing this service. Referrals requesting CBCT. Apicoectomies, retreats, silver points, thermals, blocked or calcified canals, ones with post- questionable diagnosis. First molars with MB2 calcified and older patients with cervical recurrent caries and calcified canals. Retreatments with recurrent caries and crowns. Endo/perio.
- **Patterns over time** (4) *Only refer things they don't want to do rather than can't.* Some dentists improve over time as they gain experience and start to care more about the type of care their patients receive; other dentists never change over time and don't seem to offer many options to their patients for specialty care. *There is the core referral group which refers based unconditional trust in patient experience & outcome, there is group that has the trust but other factors may affect their referral decisions, and a small dynamic group that periodically orbit the practice but they refer all or don't have more than established relationships.* I have a base group of referrals that send me most of their cases and then some that only send difficult cases
- **Limited engagements** (4) Some GD only want tooth evaluation/second opinion as the tooth has fracture and get CBCT scan. If they do not want to treat that tooth. Mainly see anything with an existing crown. Take CT and send back for treatment
- **Economy** (3) When economy slows down, they attempt to do more endodontics with unpredictable results. Greater number of attempted root canal treatments by GPs when economy slows/fear of economic downturn
- **Patient choice** (3) A lot of them give a list of where patients can go and let patients choose by considering their own financial situation and doing their own research. Our community only has two options—one insurance and one fee for service office so it is likely unique. Many referrals but fewer go on to make an appointment. Patients seeking second opinions.
- **Availability** (2) If we are booked out too far, some general dentists treat more cases so then we tend to get a higher percentage of retreats or difficult cases.
- **Complications** (2) Crack tooth syndrome.
- **Medical** (2) Antibiotics are given across the board without diagnosis. Able to anesthetize patients profoundly.
- **Quality of care** (2) Occasionally it is the patient's experience that convinces their dentist to refer to my practice. Ability to restore difficult teeth.
- **Other** (19) Appears completely random. Broken instruments, iatrogenic mishaps. Busyness of general dentist. Convenience for them. Direct communication. Frequently referred without first screening or diagnosis. Garbage. In 20 years, I have not been able to discern any reliable consistent patterns other than if I have immediate openings they will refer. Often will send patients to practice that can appoint first. patient flow. Periodontists and oral surgeons pushing extraction and implants. Register or Appointment. Seasonal, depending on how busy season is. They do not want to treatment plan restorative or tell the patient they need an extraction. They generally just want the patient taken care of and happy. Time of day. Ledges. Cost. Best referring dentists don't need me to shower them with swag. Too many endodontists rely on marketing vs just being good at what they do and doing the right thing.

How important do you feel these factors are in GD's choice of which endodontist they refer their patients?

- **Availability** (14) flexible schedule, for immediate emergency treatment of patients in pain, of managing emergency patients, to accommodate emergencies, when the patient needs to get in, to take emergency patients in a timely fashion, able to get patients in quickly for emergencies. Being available for emergency patients same day as referral. One of the highest in our area is just who can get them in the fastest. Same day appointment if wanted. Getting them in quickly. Wait time for an appointment.
- **Insurance** (11) Accept patient's dental insurance. Being in-network with patients' insurance. Affiliated with necessary insurance providers. Many offices only care about in or out of network. Whether we take their PPO.
- **Cost** (4) price
- **Relationships** (3) Personal relationship. Some GDs try to dictate the course of diagnosis and treatment. They want to drive my practice as if they are the boss of my practice. I do not work with these kinds of people. Whether they are golf buddies already/acquaintances. It can be the oldest out of date Endo office, no microscope usage and general dentists will still refer.
- **Communications** (3) Good communicator on failures of primary treatments. Outstanding communication back to the dentist.
- **Staff** (2) relationship with my staff. Friendly staff.
- **Quality of care** (2) Accurate diagnosis. They don't seem to prioritize the quality of care delivered.
- **Other** (5) Positive comments about referral dentist. From GPs I work with, most don't want to touch an Endo case. Being liked by patients. Speed one visit vs 2 or more visits waiting for bone to heal. Even making the general dentist feel important and a partner in the dental care.

What else do you find helpful to provide the patients when referring them to an endodontist?

- **Patient orientation** (17) GD discusses prognosis, possibility of the patient's tooth requiring extraction and discusses replacement options. GD provides information about the professional work delivered by the specialist. Educating patients about the importance of teeth. Emphasize importance and long-term value of preserving their own natural teeth vs extracting and replacing. GD discusses prognosis, possibility of the patient's tooth requiring extraction and discusses replacement options. Dentist has explained the end goal/ treatment plan. Restorative plan for after the RCT. Thorough with informed consent about all treatment required to save their tooth (crown lengthening, laser disinfection, post BU, O Rad report, etc.) After care - what type of restoration is required, following RCT. Provide patients with clear expectations about the procedure, an updated medical history, recent radiographs, and any relevant notes about symptoms or previous treatments. Helpful if referring dentist explained the treatment options to the patient. We see some patients who prefer to have their tooth extracted rather than have endodontic treatment and would have been better served being referred to an oral surgeon. If the patient will need a crown, it's helpful if the GP explains this. Generally, if the GP can explain to the patient what the restorative plan is after endodontic treatment, that's very helpful. Let pt know we might need to take our own scan. Letting them know it is generally a quick, painless, and noninvasive procedure. Not saying "x-ray shows a dead infected nerve!" geez I hate that. GD inform the patient how much a root canal costs, and explain the process, and has already determined if the tooth is restorable. There are very few general dentists that take the time to provide this kind of information.

- **Confidence** (13) in the endodontist, in endodontist's care and compassion, they give confidence to the patient that we are on the same team and we are the best fit for them (the patient and the doctor's practice). They inform them that we can provide treatment at a higher level which gives their teeth a better chance for long-term success and better foundations for their restorative care. They only refer to me. Emphasizing that they will be taken care of by someone with significantly more training in a certain field than their general dentist. Strong preference of which endodontist to go to communicated by the general dentist and or their staff. Telling the patient that this is where I absolutely refer. I am an excellent endodontist…. That as a dentist I would send my family there. They will be seeing someone who is highly qualified and excellent not choosing the endodontist because of insurance. Why the patient is being referred; how the endodontist is different than the general dentist- what is an endodontist. Referring dentist explains that the endodontist is honest and will not treat their tooth if it doesn't need treatment or requires extraction. Assurance they will get better care.
- **Written/info** (9) Detailed referral form for them to bring to the endodontists office. Phone number and address. Referral slip/note. Radiographs. Tooth number. Written referral and information about the case is critical, but many times not received. Endodontist's personal cellphone number. Completed referral form. X-rays and referral sheet.
- **Cost/profitability** (7) General idea. It's all become about $$$, let's not kid ourselves. Knowing out of pocket cost. Most dentists are concerned about the 'bottom line' on the balance sheet. If procedure or patient issues—finances, medical, attitude, history of missed appointments—put production goals at risk, that patient gets referred to a specialist. GD don't want anything slowing their production down. Specialists get multi-appointment cases requiring time beyond what insurance will compensate. Free market system in healthcare was broken a long time ago. The McCarran- Ferguson anti-trust act should have protected us but healthcare providers, especially specialists, see this failing daily. Nothing more than corporate slavery when you see the big picture. Preparation of pt for the cost.
- **Directions** (6) on post op care. Having a treatment plan. I wish more dentists would stress the importance of treatment recommendations for the patient's general health (not just the dental benefits). Insurance information discussed with patient. Location.
- **Insurance status** (2) are in network

- **Other** (32) Do NOT prescribe antibiotic therapy. Strong communication relationship between the front office staff. Comfort after practice. Years of practice. Assure patients they are seeing an expert in the field. Assuring them that we are partners in their care. Board-Certified Specialist. Establishing boundaries for patient's expectations. Expectations on visit, communication about potential restorative needs to follow. Explaining insurance benefits and the need for followup restorative treatment. Explaining the importance of following up with the consultation, helping the patient get scheduled. GD as explained the follow up expectations back at their office once the endodontic treatment is completed. GP provides info as to why endodontists are necessary—advanced training in this area. Many patients are too used to the old ways of the same person doing everything. Like medicine, we need to change and recognize the need for specialists in dentistry. Handling the logistics of the appointment, scheduling for example. Highly recommending helps with their confidence in seeing the specialist. How much extra training we have and that it is a specialty, what an endodontist is in general. I want them to understand that we are human beings. Just because the case appeared easy or relatively straight forward, it does not imply that it is easy in reality. *We like the general dentists glorifying our abilities but do not make the patients believe we can save an unrestorable tooth or give them a false hope that we can always get around completely obliterated canals. We can only achieve what we can as humans.* Important for the GD to have explained a treatment plan to the patient prior to them scheduling with us. Patient well prepared & patient has overall plan. Physical referral slip and radiographs, along with treatment plan. Pt should know to expect a crown or crown lengthening etc. Pros and cons of different treatment options. Quality of work and availability for patients in pain. Relationship with general dentist. Root canals have risk and complications. Root canals can fail for various reasons. Sending pre op x-rays and accurate tooth numbers. Significant medical factors, Pretreatment Diagnosis, probing depths, coronal cracking, restorative opinion, treatment plan, patient anxiety or mood, financial complexity. Small narrative is always very helpful. Them expressing confidence in the practice they are referring to. They will receive expert treatment and the reasons for saving their tooth vs extraction. Those are my best referrals- unfortunately most patients arrive with little or no information relayed by their GP, just a "you need to see the specialist." Treat them well. Validation of skills.

What other factors have you found helpful building a reciprocal relationship with general dentists?

- **Social/outreach** (24) approachable, meeting them at social events. Buying them lunch/dinner/gifts. Cordial conversation. Forming personal relationships, visiting offices. Getting to know them at personal level may be helpful but it's difficult to make friends with all your referrals. Attempts count, efforts are usually seen, and for some, it can backfire so you do have to pick and choose who you will take out for dinner. Getting to know the GD on more of a personal level. Common interests outside of dentistry. Attend study clubs. Gifts at special occasions birthday or Christmas. One on one time with general dentist... lunches, etc. Personal relationship with the general dentist. Building a relationship about everything, their growth, business, dentistry, family. It varies per doctor, but listen to them and sync with them. Regular meetings with general dentist. Must develop personal relationship with the general dentist. Take treats, go out to lunch occasionally, or dinner. Some type of social. Visit their office often, connect with their staff, bring treats, give referral gratitude cards, top 10 get Christmas gifts. Visiting their office. Social and sports. Not over-treating like every other endodontist in my area. They are all Loma Linda grads. Study clubs, parties, lunched, other times together. Meet with them in person and share a coffee or dinner at least once a year.
- **Being available** (18) for emergencies, for patient and doctor, for their patients whether it's an emergency treatment or an exam that they are requesting. Immediately for patients. Via text or email, giving them my cellphone number. Being available to speak with general dentist regarding patients and having availability to see their emergency pts same day/next day. Getting their patients in ASAP. If you're available, they send patients. Being readily available for consultations. Seeing their patient first when in pain. Seeing their patients in a timely manner. Timely appointment availability. We accommodate their patients within 24 hours for emergencies and within 2 weeks for intake and/or treatment. A philosophy of just saying "yes" to every referral, although creating many frustrations, has kept us busy and successful. Most important is seeing their emergencies same day. Help them if problems need to be corrected or emergencies seen quickly.
- **Communication** (17) on tough cases, and treatment plan discussion as necessary, with front offices, referring office. Calling them on complex cases. Ability to text pertinent info. An environment where you can contact us immediately via SMS etc. General DDS's love communication. Consistent communication. I try not to call them as much as possible because I understand they are busy. I will call if I need information about a patient in the office immediately. Timely follow-ups on shared patients. Personal communication. Trust building and good communication. Written communication and phone conversations. Open communication is key but in today's environment it is difficult to establish communication if it is not by e-mail. Most general dentists are not available by phone because their office staff does not allow it. We are always within reach - they have my personal cell phone number. Answering texts and emails quickly about patients.
- **Patients** (8) Communicating our confidence in them to their patients. Providing exceptional patient care. Referring THEM patients. Returning a pain-free happy patient. Taking excellent care of their patients. Treating their family members/staff at no charge. Speaking highly of the general dentist to the patient, where appropriate. Letting the patient know that their general dentist is great.

- **Insurance** (3) Taking similar insurance plans. Being in-network with their patients' insurance. More dentists are requesting that we sign up with insurance companies.
- **Visibility** (3) Community service involvement. Networking opportunities. Try to be a leader in the endo field without "over teaching," informative without being condescending.
- **Ambiguity** (3) They love that treatment won't be done unless truly indicated. Highly variable: most dentists who ask about how I do endo are asking because they want to do the endo themselves. No judgement.
- **Mutual respect** (3) for each other, expertise. Reinforce our mutual concern for excellent communication and service with mutually respected interdisciplinary care.
- **Collaborating** (2) on patient care. Reinforcing the GP treatment plan.
- **Other** (2) Be kind to them their staff their patients. Most patients are already in the group practice.

What are the most effective ways to establish successful contact with general dentists in your area?

- Gifts, help treatment planning their complex cases, lunches, teaching at local dental school, texting/voice memos, word of mouth

What can endodontists do more effectively to increase referrals from dentists in general practice?

- **Communicate** (35) Often, timely, clearly, better, frankly, about patients, directly with me the endodontist. Engaging and communicating with the referral. Always communicate well, whether over the phone or in person. Be excellent team players and communicators. Communicate better with the general dentist. Communicating with them with, any excuse is key. Communication is key. Treatment reports in timely way. Directly via phone calls and reports. Improving communication. Call the GD if there is a difficult case or need to communicate something important about the case. More open communication, treatment planning. Develop interpersonal communication skills. do many recalls and communicate back their GPs with patient's current condition. Speaking with them so that they know we are partners in caring for their patients. Manage patient and Dentist expectations. Speaking to them over the phone when questions arise (i.e. the case is an abutment tooth to a bridge; would you like to have a post space made?)
- **Meet them** (34) in their office, personally. Regular face-time with referring docs and offices. Don't stop. Attend local dental society meetings. Attending academic meeting or party. Go out and meet dentists and then be available to treat emergencies. Go to offices and meet staff, socialize as well. Eye to eye contact. Face time with the dentists. Face to face time with the general dentist, whether a lunch, a lecture, an activity. Doc-to-doc interaction or Receptionist-doc interactions. Take the general dentists in their area to lunch to get to know them personally. Create real personal relationships. Increase personal contact. There is no one size fits all; some dentists want to meet others don't. Join a study club. Take them to lunch/ dinner. Take time to meet the general dentists and get to know them. Having in person interaction with referrals. Connect socially. Keep in contact. Host small study groups. Hosting study clubs. Always be visible by attending meetings; consider scheduling lunches to establish a more personal relationship. Be a member of an endodontic group or society that conducts CE programs aside from annual meetings.

- **Personal relationships** (28) and persistence. Getting to build rapport both professional and personal. Get to know the referral dentist personally, better. Get to know their preferences. Build relationships. Build the relationship and maintain it occasionally by meeting or talking. Build trust & do good work. Know them on a personal level. Develop personal relationships with dentists with whom they wish to partner. I vest in personal relationships. Maintain good relationships, with the front desk as well. Be pleasant on the phone with their staff. Be nice to the patients. Be more personable with general dentists and their teams. Being easy to talk to! Befriend them better… then show them how we can save teeth. Get on the phone to discuss complex cases, make yourself available to be a sounding board for their own complex cases. Have a good relationship. Making phone calls and asking how they can accommodate their needs. Show your humble, likable character, taking them out to dinner. Just get to know them and discuss patient cases with them. Lots of relationship building events: phone calls, office visits, lunches, receptions. Relationships tailored to each office's needs. Respond to their needs. Personal contact; many refer based on knowing you and speaking with you and feeling comfortable. Personal conversations - either in person or by phone. But everyone is very busy.
- **Educate** (27) Teach them to want the best outcome for their patient. Educate and communicate. Educate them about saving teeth with advanced restorative techniques such as deep margin elevation, on teeth with deep caries. Educate them on the vast difference in knowledge and the level of care provided by an endodontist vs general dentist. Education on our procedures and utilizing improved technology. Educating general dentists through case reviews or short clinical updates." Collaborating on CE courses. Teach novel endodontics to seasoned practitioners. Best impact can be made while dentists are in dental school... schools that teach their students to value specialists and when to refer tend to produce general dentists who do this well whereas some schools are horrible at this and their graduates reflect this in their referral patterns. Teach at a local dental school or serve on dental board in your area. Teach at the Dental School in order that they know you! Study clubs—meet them personally a couple of times per year. Talk with them to find out what they need and educate them what we an offer to do for their patients. Participating in seminars. Need to interact/begin to emphasize the importance of the referral relationship to dental students before they get into practice. Many new dentists don't appreciate or understand what an endodontist can provide to their practice. By the time they get into practice, it's sometimes too late. Lunch and learn. Showing them how much more efficiently endodontic procedures can be performed in an office specialized in providing endodontic care. Authentic Mentorship: when an endo passionately tries to help general dentists be the best professional they can be, it creates trust and bonds a relationship, has to be real and authentic and not phony fake marketing. General dentists have to inform endodontists of their skill and competence. Help them understand the team approach. Help them see how giving the best to their patients will give them best to themselves and their practices. Have them learn their limits. Reinforce the need of CE and high-tech equipment. Showing our abilities and expertise to the general dentists. Do a better job educating GPs that implants are not a good replacement for good, salvageable teeth.

- **Timely** (24) Get pain patients in as soon as possible. Get patients treating in your office in a timely fashion. Get their patients out of pain asap. Providing quick access for urgent cases. Timely treatment. Seeing referrals in a timely manner is the most important aspect of building relationships. The only consistent thing is that most dentists will keep referring if you get their patients in ASAP. See their emergencies timely. See their patients ASAP. Provide their cellphone number to patients and general dentists. We are in emergency services. If we are not down to be available to our patients and referring doctors, even on weekends, then we should not be in this career. See patients the same day for emergencies. Take all emergencies. Never say no to an emergency. We have stayed until midnight and come into the practice to see patients at 5 am if we can't fit them in anywhere else. Take painful emergencies quickly into our office. See emergencies. Often timeliness is critical that suits the patient. Open to more emergency (patients). Be willing to say yes. A "send them right over" mentality helps to build your practice. Figure out how to make it work. Prompt care of their patient. Prompt return of records. Timely progress reporting. Perform treatment in a timely manner without any drama. Always be accommodating to their office; if they have an emergency, get their patients in in a timely manner to help them out in those stressful scenarios. Accommodate emergency patients asap. Always see emergency patients.
- **Quality** (22) Do better work. Do good work for the community to see and dentists to notice. Good results. Delivering predictable outcomes. Deliver consistent top-quality treatment. Give excellent care to their patients. Do good work. Restore core of the tooth. Provide excellent results. Provide exceptional patient care and skilled work. Provide great service and ask the patient to tell the dentist that they had a great experience. See their patient first and do good work. Provide caring, compassionate, and confident care to their patients. Show their portfolio. Solve the patient's problem. High quality treatment. high quality work without making patients wait more than a couple days. Make sure you provide exceptional care to their patients including consideration of comprehensive care. Best care of patients' experience. Exceptional patient care. Treating their patient in a caring, quality manner.
- **Be accessible** (16) for emergencies, patient care. Availability. Be available to take emergency patients the day that the GD office call to get in a patient. Be available! Just being available to the GD. All my referrals are givenmy cell phone number and encouraged to text or call me with any questions they have. Most text me with simple questions and are appreciative rather than having to second guess whether to refer a case or not, or how to manage certain situations. Being available to answer endo questions and serving as a mentor for young general dentists. Being available when they want to discuss a case, good case management and outcome, discussion of the case if we are unsure and trying to be in the same page. Be available for questions about their patients.

- **Media/advertising** (13) Social media. Case discussions on social media. Build trust in the dental community. Make oneself visible. Marketing. Newsletter and increased social media presence. It's almost like we need to hire a dedicated marketing person. General dentists seem to have the opinion that they can do most everything we do just as well. Some GD refer everything. Some seem to refer only when their schedule is full. Be visible. Be part of the dental community. Make sure they know who you are either by name or by face. Hire staff for regular marketing to referring office staff. Advertising their work (in a non-aggressive yet effective manner). We employ a marketing person how constantly visits referring offices this has help a lot.
- **Teamwork** (8) Get them to be partners in care. Emphasize our desire to assist the general dentist in the care of their patient. Emphasize case selection BEFORE they run into trouble and send treatment plans for us to help us reinforce their treatment plan. Call.GD often and discuss the treatment option with them and have been a team member. Support where necessary. Be supportive of the general dentist's treatment. Partner with and be willing to share knowledge with them.
- **Personality** (7) *Don't be a dick.* Drop their ego. Continually work on their people skills and use those skills on their referring dentists. Establish collegial relationships with referring dentists. Establishing a personal relationship and nurturing and maintaining it. *People refer to people they like.* Make a genuine connection with General dentists
- **Refer patient back** (7) Send back excellent work. When patient finds endodontist on their own, you complete the case and hand deliver the case report with x-rays to the new dentist. Creates an opportunity to meet a potential new referral. Referral back to DDS for restorative. Return patient back to referring office. Send new patients to the general dentist. Tell their patients how terrific their dentist is. Always refer back their patients
- **Patient contact** (6) Treat the patient like a person not a paycheck. Focus on treating the patient well, and the total 360 experience from referral to first phone call to determining insurance beforehand, and empathic care. Going directly to patient and explain endodontics. Keep patients calm. Providing information to patients. Follow through with each patient.
- **Financial** (4) Maintain a reasonable fee schedule. Give them a cut of the money, I don't really know after 20 years. Patients and even their dentist's primarily concern is with cost and if you're in their insurance network. Price information and transparency.
- **Feedback** (4) Follow up with letter/ X-rays immediately after treatment. Call them if something unusual. Ask for feedback from offices already referring to them. Ask they what they need from an endodontist to help their patients. Give them feedback about prognosis and restorative recommendations.
- **Insurance** (4) accept insurance. Accept more insurances lol. Insurance for those offices and relationships for the fee for service offices.
- **Gifts** (4) Send more gifts to them. Sending them holiday gifts. Send food to the office.

- **Treatment approaches** (3) Stop over treating. Having good imaging. Do treatment in a single visit.
- Accept specialization/**division of labor** (2) Do what GDs can't or don't want to do. Post and Core build-ups in complex cases provides a resource for the GDs. General dentists take a single course and become endodontists overnight---difficult corrections come my way. The thrill is gone and general dentists and the DSO-hired "super-dentists" who as generalists, do endo; same thing.
- **Staff development/education** (2) Encourage new endodontists to not work for GDs but for endodontists. In the 40 years I have been practicing, I only had 3 2nd year residents reach out for a job upon graduation. Timing wasn't good, but for the past 5 years I have been ready for an associate or buyer for my practice. Somehow get them to realize that we provide knowledge and perform the procedure in a way they never could without having the extra education. They seem to think everyone can just fill holes and that is sufficient to be an endodontist.
- **Public perception** (2) Specialty needs to tell the public we are the answer for root canals, much like patients assume orthodontist does braces. The AAE could do general public advertising for us with billboards, etc. that let patients know there are specialists and they can request to see us if their dentist says they need a root canal. Patients don't know we are here. But if we start advertising that way then GDs will stop referring. So, we need it to come from the AAE or larger group to get the word out.
- **Techniques** (2) Sedation of patients would also be helpful. Understand the restorative and periodontal aspect before just doing the treatment.
- **Advocacy** (2) Have the ADA and malpractice insurance carriers tell them to stop doing so many molar/complicated endodontic procedures. AAE focus on negotiating better insurance reimbursements as a top priority!
- **Other** (10) I wish I knew, I'd be busier. General dentist are gonna refer to you because they want. Be more selective in taking in cases with predictability. In addition to above–pray. Accommodate patients. I don't consider non-molar less difficult than molar. Know your work and work and personal ethnics and sharing same philosophy in treatment planning. Stop cross privilege. We must always professional in our work, solving Endodontic problems. In the past 25 years I would say that general dentists are more pig than dentist.

Appendix I: Endodontist Version

AAE Endodontist Referral Practices & Preferences Survey

A. Introduction

When and how are you referred patients from general dentists? How can endodontists work more effectively with general dentistry, and what are the best practices when it comes to referrals? This survey being administered by the American Association of Endodontists, using a third-party consultant to protect the privacy of your response. We will share summary results with you if you want, by providing contact information at the end of the survey. Thank you for your participation!

1. Which best describes your background as a dentist?

- ○ Currently a practicing endodontist
- ○ Formerly a practicing endodontist but inactive today
- ○ Another dental specialist or general dentist (please describe) _____

2. Which best describes your practice?

- ○ Member of a group practice
- ○ Solo practice
- ○ Public such as government
- ○ Academic practice
- ○ Other (describe) _____

3. Please tell us the following about your history and patients: (response required; feel free to estimate)

What percent of your total root canal patients are referred to you by general dentists? _____ %

How many total patients a year would you estimate are referred to your practice by general dentists?

How many dentists work in your group practice?_____

How many years have you been in practice?_____

In which state or province do you practice?_____

If applicable, in what metro area do you practice? _____

B. Referrals from General Dentists

1. How has the number of total referrals you have received from general dentists changed over the past several years?

- ○ Increased sharply
- ○ Increased somewhat
- ○ Stayed about the same
- ○ Decreased somewhat
- ○ Decreased sharply

2. From how many general dentists are you referred patients in a typical year?

- ○ One
- ○ 2–3
- ○ 4–5
- ○ 6–10
- ○ More than 10

3. Have you seen changes in which general dentists refer patients to you over the past several years? (check all that apply)

- ○ We received some first-time referrals from general dentists who had not referred before
- ○ We had at least one general dentist stop referring patients to us
- ○ There has been no recent changes in which general dentists refer patients to us

4. How important do these factors seem to be when a general dentist refers a patient to you?

Extremely Important | Very Important | Somewhat Important | Somewhat Unimportant | Not at all Important | Don't Know

The financial cost for the patient	○	○	○	○	○	○
Patient comfort level and preference for who they want to treat them	○	○	○	○	○	○
Patient clinical conditions (curved or calcified canals or retreatments)	○	○	○	○	○	○
Personal characteristics of the patient (such as anxious, uncooperative)	○	○	○	○	○	○
Complications due to pain and/or swelling	○	○	○	○	○	○

Other factors (please describe) _____

5a. What factors have driven your recent increase in referrals from general dentists?

_____

5a. What factors have driven this recent decrease in referrals from general dentists?

_____

6. What is the relationship between the number of endodontists needed and the number you have in your community?

- ○ There is substantial oversupply in our market—far too many endodontists
- ○ There is some oversupply—too many endodontists
- ○ The number of endodontists aligns well with how many we need
- ○ There is some undersupply—too few endodontists
- ○ There is a substantial undersupply in our market—far too few endodontists
- ○ No opinion

7. What proportion of patients referred to you by general dentists fall into these categories? *Please answer so that the total adds to 100%.*

Not complicated: Minimal difficulty, non-molar root canal, minimum pain/swelling _____

Moderately complicated: Some difficulty, root canal on tooth with crown, minimum pain/swelling _____

Very complicated: High difficulty, 2nd/3rd molar root canal, curved roots, minimum pain/swelling _____

Total patients referred to endodontists: 100% _____

8. What other patterns do you see in general dentist referrals to your practice?

_____

C. Choosing Endodontists

1. To what extent do you agree with each of these statements, based on your experiences and observations?

Strongly Agree | Somewhat Agree | Neither Agree or Disagree | Disagree Somewhat | Strongly Disagree | Don't Know

General dentists are my partners in delivering quality dental care.	○	○	○	○	○	○
Once a general dentist has decided to refer patients to us, they tend to stick with us for future referrals.	○	○	○	○	○	○
General dentists can do many of the procedures they refer to us as well as we can do them	○	○	○	○	○	○
General dentists do many of the same procedures as endodontists and for less cost.	○	○	○	○	○	○
General dentists understand that endodontic treatment of a salvageable or restorable tooth would provide an equal or preferable outcome to an extraction with a dental implant.	○	○	○	○	○	○

2. How important do you feel these factors are in general dentists' choice of which endodontist they refer their patients?

Extremely Important | Very Important | Somewhat Important | Somewhat Unimportant | Not at all Important | Don't Know

Having an office at a location convenient to the patient	○	○	○	○	○	○
Having previous patients who were satisfied with their work	○	○	○	○	○	○
Having performed previous work to your satisfaction	○	○	○	○	○	○
Being recognized by other dentists for their expertise	○	○	○	○	○	○
Having the most up-to-date equipment/technology to perform procedures	○	○	○	○	○	○
Having a calming, caring manner with patients	○	○	○	○	○	○
Having outstanding skill/expertise to perform the treatment	○	○	○	○	○	○
Their sharing your treatment philosophy and plan	○	○	○	○	○	○

Other factors: _____

2a. What do you regard as the most important factors in choosing an endodontist? *(use drop-down menu)*

Single most important _____

Second-most important _____

2b. What could endodontists do more effectively to increase referrals from dentists in general practice?

_____

3. How useful do you find these practices with or materials for patients when they are referred to you by their general dentist?

Extremely Useful | Very Useful | Somewhat Useful | Somewhat Useless | Not Useful at all | Don't Know

General dentist reassures them that you will receive information in advance of the first appointment and be familiar with their case	○	○	○	○	○	○
General dentist provides information about your background/practice	○	○	○	○	○	○
General dentist provides information about your personal characteristics (such as your level of concern and care for patients)	○	○	○	○	○	○
General dentist provides educational tools that explain the procedure and/or varying degrees of complexity of root canal treatments	○	○	○	○	○	○

What else do you find helpful for general dentists to provide their patients when referring them to you?

_____

4. How effective have these factors been in building reciprocal relationships or partnerships with a general dentist?

Extremely Effective | Very Effective | Somewhat Effective | Somewhat Ineffective | Very Ineffective | Don't Know

We refer patients who need a dentist in general practice to them	○	○	○	○	○	○
We refers patients back to them for restorative treatment	○	○	○	○	○	○
We collaborates with them on a treatment plan for a referred patient	○	○	○	○	○	○
We accommodate their patients to fit their personal schedule	○	○	○	○	○	○
We ask for patient feedback on our services	○	○	○	○	○	○
We share tools—assessment forms, patient ed info—they can use in practice	○	○	○	○	○	○
We send reports and film to them in a timely manner following procedures	○	○	○	○	○	○
We answer their questions about endodontic procedures, techniques or materials and are available if they need a second opinion	○	○	○	○	○	○
We invite them to professional learning events*	○	○	○	○	○	○
We show signs of appreciation to their staff	○	○	○	○	○	○
We send updates on new treatment alternatives/ successful case images	○	○	○	○	○	○

**seminars, study clubs and dental society meetings*

What other factors have you found helpful building a reciprocal relationship with general dentists?

_____

5. What are the most effective ways to establish successful contact with general dentists in your area?

(check up to three; if you check more than one item for a column, you can click it again to de-select it.)

	#1 (most important)	#2	#3 (third-most)
Placing phone calls to general dentists	○	○	○
Being dental school alumni (graduating from the same dental school)	○	○	○
Giving general dentists an opportunities to observe our work in practice	○	○	○
Writing articles on latest procedures in dental journals, newsletters, and Web sites	○	○	○
Sending letters and information to general dentists	○	○	○
Hosting study clubs, seminars, or CE opportunities for general dentists	○	○	○
Meetings general dentists who are attending local dental society meetings	○	○	○
Being recommended to them by respected colleagues/dental practice manager/owners	○	○	○
Visiting the office of a general dentist	○	○	○

Other ways to learn: _____

6. If you are interested in receiving a copy of our findings, please check below and provide your contact information.

○ Yes, I would like to receive a copy of the findings

7. We are also conducting some follow-up interviews after survey data collection is complete, to understand more about dentist referral patterns. Please indicate below if you would be interested in having a 20-minute conversation via phone or zoom, to be scheduled at your convenience.

○ Yes, I would like to participate in an interview

○ No, I do not want to participate in an interview

Name:_____

Email address: _____

D. Your Profile

1. Is your practice primarily located in...

○ A rural area (under 20,000)

○ A small city (under 100,000)

○ A larger city (100,000-500,000)

○ A larger metro area (over 500,000)

2. What is your gender?

○ Male ○ Female

3. Please tell us the following:

What is your age? _____

In roughly how many years do you anticipate retiring? _____

Thank you for participating in the AAE Survey of General Dentist Referral Patterns

Appendix II: GD Version

AAE Endodontist Referral Practices & Preferences Survey

A. Introduction

When and how are you referred patients from general dentists? How can endodontists work more effectively with general dentistry, and what are the best practices when it comes to referrals? This survey being administered by the American Association of Endodontists, using a third-party consultant to protect the privacy of your response. We will share summary results with you if you want, by providing contact information at the end of the survey. Thank you for your participation!

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2. Which best describes your practice?

- ○ Member of a group practice
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- ○ Public such as government
- ○ Academic practice
- ○ Other (describe) _____

3. Please tell us the following about your history and patients:
(response required; feel free to estimate)

What percent of your total root canal patients are referred to you by general dentists? _____ %

How many total patients a year would you estimate are referred to your practice by general dentists? _____

How many dentists work in your group practice? _____

How many years have you been in practice? _____

In which state or province do you practice? _____

If applicable, in what metro area do you practice? _____

B. Referrals from General Dentists

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- ○ Increased somewhat
- ○ Stayed about the same
- ○ Decreased somewhat
- ○ Decreased sharply

2. From how many general dentists are you referred patients in a typical year?

- ○ One
- ○ 2–3
- ○ 4–5
- ○ 6–10
- ○ More than 10

3. Have you seen changes in which general dentists refer patients to you over the past several years? *(check all that apply)*

- ○ We received some first-time referrals from general dentists who had not referred before
- ○ We had at least one general dentist stop referring patients to us
- ○ There has been no recent changes in which general dentists refer patients to us

4. How important do these factors seem to be when a general dentist refers a patient to you?

Extremely Important | Very Important | Somewhat Important | Somewhat Unimportant | Not at all Important | Don't Know

The financial cost for the patient	○	○	○	○	○	○
Patient comfort level and preference for who they want to treat them	○	○	○	○	○	○
Patient clinical conditions (curved or calcified canals or retreatments)	○	○	○	○	○	○
Personal characteristics of the patient (such as anxious, uncooperative)	○	○	○	○	○	○
Complications due to pain and/or swelling	○	○	○	○	○	○

Other factors (please describe) _____

5a. What factors have driven your recent increase in referrals from general dentists?

_____

5a. What factors have driven this recent decrease in referrals from general dentists?

_____

6. What is the relationship between the number of endodontists needed and the number you have in your community?

- ○ There is substantial oversupply in our market—far too many endodontists
- ○ There is some oversupply—too many endodontists
- ○ The number of endodontists aligns well with how many we need
- ○ There is some undersupply—too few endodontists
- ○ There is a substantial undersupply in our market—far too few endodontists
- ○ No opinion

7. What proportion of patients referred to you by general dentists fall into these categories? Please answer so that the total adds to 100%.

Not complicated: Minimal difficulty, non-molar root canal, minimum pain/swelling _____

Moderately complicated: Some difficulty, root canal on tooth with crown, minimum pain/swelling _____

Very complicated: High difficulty, 2nd/3rd molar root canal, curved roots, minimum pain/swelling _____

Total patients referred to endodontists: 100% _____

8. What other patterns do you see in general dentist referrals to your practice?

_____

C. Choosing Endodontists

1. To what extent do you agree with each of these statements, based on your experiences and observations?

Strongly Agree | Somewhat Agree | Neither Agree or Disagree | Disagree Somewhat | Strongly Disagree | Don't Know

General dentists are my partners in delivering quality dental care.	○	○	○	○	○	○
Once a general dentist has decided to refer patients to us, they tend to stick with us for future referrals.	○	○	○	○	○	○
General dentists can do many of the procedures they refer to us as well as we can do them	○	○	○	○	○	○
General dentists do many of the same procedures as endodontists and for less cost.	○	○	○	○	○	○
General dentists understand that endodontic treatment of a salvageable or restorable tooth would provide an equal or preferable outcome to an extraction with a dental implant.	○	○	○	○	○	○

2. How important do you feel these factors are in general dentists' choice of which endodontist they refer their patients?

Extremely Important | Very Important | Somewhat Important | Somewhat Unimportant | Not at all Important | Don't Know

Having an office at a location convenient to the patient	○	○	○	○	○	○
Having previous patients who were satisfied with their work	○	○	○	○	○	○
Having performed previous work to your satisfaction	○	○	○	○	○	○
Being recognized by other dentists for their expertise	○	○	○	○	○	○
Having the most up-to-date equipment/technology to perform procedures	○	○	○	○	○	○
Having a calming, caring manner with patients	○	○	○	○	○	○
Having outstanding skill/expertise to perform the treatment	○	○	○	○	○	○
Their sharing your treatment philosophy and plan	○	○	○	○	○	○

Other factors: _____

2a. What do you regard as the most important factors in choosing an endodontist? *(use drop-down menu)*

Single most important _____

Second-most important _____

2b. What could endodontists do more effectively to increase referrals from dentists in general practice?

_____

3. How useful do you find these practices with or materials for patients when they are referred to you by their general dentist?

Extremely Useful | Very Useful | Somewhat Useful | Somewhat Useless | Not Useful at all | Don't Know

General dentist reassures them that you will receive information in advance of the first appointment and be familiar with their case	○	○	○	○	○	○
General dentist provides information about your background/practice	○	○	○	○	○	○
General dentist provides information about your personal characteristics (such as your level of concern and care for patients)	○	○	○	○	○	○
General dentist provides educational tools that explain the procedure and/or varying degrees of complexity of root canal treatments	○	○	○	○	○	○

What else do you find helpful for general dentists to provide their patients when referring them to you?

_____

4. How effective have these factors been in building reciprocal relationships or partnerships with a general dentist?

Extremely Effective | Very Effective | Somewhat Effective | Somewhat Ineffective | Not Effective at all | Don't Know

We refer patients who need a dentist in general practice to them	○	○	○	○	○	○
We refers patients back to them for restorative treatment	○	○	○	○	○	○
We collaborates with them on a treatment plan for a referred patient	○	○	○	○	○	○
We accommodate their patients to fit their personal schedule	○	○	○	○	○	○
We ask for patient feedback on our services	○	○	○	○	○	○
We share tools—assessment forms, patient ed info—they can use in practice	○	○	○	○	○	○
We send reports and film to them in a timely manner following procedures	○	○	○	○	○	○
We answer their questions about endodontic procedures, techniques or materials and are available if they need a second opinion	○	○	○	○	○	○
We invite them to professional learning events*	○	○	○	○	○	○
We show signs of appreciation to their staff	○	○	○	○	○	○
We send updates on new treatment alternatives/ successful case images	○	○	○	○	○	○

*seminars, study clubs and dental society meetings

What other factors have you found helpful building a reciprocal relationship with general dentists?

_____

5. What are the most effective ways to establish successful contact with general dentists in your area?

(check up to three; if you check more than one item for a column, you can click it again to de-select it.)

	#1 (most important)	#2	#3 (third-most)
Placing phone calls to general dentists	○	○	○
Being dental school alumni (graduating from the same dental school)	○	○	○
Giving general dentists an opportunities to observe our work in practice	○	○	○
Writing articles on latest procedures in dental journals, newsletters, and Web sites	○	○	○
Sending letters and information to general dentists	○	○	○
Hosting study clubs, seminars, or CE opportunities for general dentists	○	○	○
Meetings general dentists who are attending local dental society meetings	○	○	○
Being recommended to them by respected colleagues/dental ractice manager/owners	○	○	○
Visiting the office of a general dentist	○	○	○

Other ways to learn: _____

6. If you are interested in receiving a copy of our findings, please check below and provide your contact information.

○ Yes, I would like to receive a copy of the findings

7. We are also conducting some follow-up interviews after survey data collection is complete, to understand more about dentist referral patterns. Please indicate below if you would be interested in having a 20-minute conversation via phone or zoom, to be scheduled at your convenience.

○ Yes, I would like to participate in an interview

○ No, I do not want to participate in an interview

Name:_____

Email address: _____

D. Your Profile

1. Is your practice primarily located in...

○ A rural area (under 20,000)

○ A small city (under 100,000)

○ A larger city (100,000–500,000)

○ A larger metro area (over 500,000)

2. What is your gender?

○ Male ○ Female

3. Please tell us the following:

What is your age? _____.

In roughly how many years do you anticipate retiring?_____

Thank you for participating in the AAE Survey of General Dentist Referral Patterns

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