

Clinical Article

RANDOMIZED CONTROLLED TRIAL

Parental Compliance with Instructions to Remain Silent in the Dental Operatory

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Abstract: Purpose: The purposes of this study were to: (1) determine compliance in requesting parents to remain silent (noncommunicative) when accompanying their child into the dental operatory for restorative care; and (2) determine if any difference in parental compliance existed when combined written and verbal instructions were given to a parent vs written instructions only. **Methods:** Thirty-nine parents of 4- to 9-year-olds presenting for restorative care met eligibility criteria for the study. Parents were randomly assigned to a written instructions-only group or a group that received combined written and verbal instructions. **Results:** Thirty-two of 39 parents (82%) followed instructions to remain silent. There was no statistical difference in parental compliance to remain silent comparing written instructions (78%) to combined written and verbal instructions (86%). **Conclusion:** Parents may be expected to comply with instructions to remain silent in the operatory when given either written or combined written and verbal instructions. (*Pediatr Dent* 2013;35:47-51) Received July 21, 2011 | Last Revision February 27, 2012 | Accepted February 29, 2012

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Parental presence in the operatory. The issue of parental presence in the dental operatory during treatment of a child first emerged in the literature in Addeleston's classic article introducing "tell-show-do" as a basic principle of communication with children when receiving dental care. In his article, Addeleston advocated that, if parents were to accompany their children into the operatory, they should sit in a "silent" chair.¹ Pediatric dentists have expressed variable opinions on whether or not parents should be present in the dental operatory during their children's dental treatment.²

Advantages of parental presence in the operatory. Advantages of parental presence include: an increased feeling of security for the child³; parental satisfaction and peace of mind³; and parents feeling they are being appropriately protective of their children.⁴ Additionally, dentists believe that, if the parent is present, they can witness the child's positive behavior during the dental treatment and also comfort the child, if necessary.⁵ Parental presence may have a positive influence on a child's anxiety and behavior during dental care.⁶

According to Feigal, a parental presence in the operatory can enhance communication skills by motivating better communication with the child and parent.⁷ He cited as additional advantages the ability for parents to see the reality of the challenging care provided by the dentist and to observe the caring approach given to their children. Parents also hear dental health messages given to their children, enabling them to reinforce these messages at home.

Disadvantages of parental presence in the operatory. Disadvantages of having the parent in the dental operatory include: the parent injecting orders to the child, which becomes a barrier to the development of rapport between the child and the dentist³; additional time required⁵; and increased negative behavior from the child.⁸ The repetition of the dentist's orders by the parent creates an annoyance for both the dentist and child and may disrupt the child's cooperative behavior.^{3,5} Further potential problems include the division of the dentist's attention between the parent and child and transmission of maternal anxiety to the child.^{3,8-10} It has also been found that dentists commonly feel uncomfortable if parents are present in the operatory and may hesitate to use behavior management tools, such as voice control, for fear of offending the parents.^{3,5}

The "silent" chair. Wright has expressed the view that parental presence in the operatory in an active, verbal manner results in negative consequences for the dentist-child interaction, with the potential for more uncooperative behavior.³ Molinari supported this perspective, stating that parents being passive, silent observers can positively affect their child's treatment visit.¹¹ Supporting Molinari's view is a study examining children's distress and the degree of maternal involvement during routine immunization visits by 5-year-olds to the pediatrician. When mothers were present as observers only during immunizations, the children showed less behavioral distress and their post-injection affect was more positive vs the children who had high maternal involvement during the immunization.¹²

Children younger than 49 months old tend to cooperate better during procedures when their mothers are present, but children older than 50 months old have a positive response to dental treatment, regardless of parental presence or absence during the dental care.² In a prospective, randomized, clinical trial, Pfefferle et al. found that the behavior of 36- to 60-month-old children was unaffected by the presence or absence of a parent in the operatory.¹³ Other research indicates that 4- to 8-year-old patients exhibit more negative behavior than 9- to 12-year-old patients, regardless of parental presence or absence.¹⁴

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Despite contradictory findings regarding the effect of parental presence in the operatory, if given a choice, studies indicate that 66% to 78% of parents choose to be present in the operatory with their children.^{6,10,15-18} Parents feel the most important reason for their presence is their need to see what happens to their children during the dental visit.¹³ Consequently, it becomes necessary for the pediatric dentist to maximize the benefits of parental presence in the operatory while concomitantly reducing any negative effects by introducing the concept of the “silent” chair to parents while their child is receiving dental care.

Compliance with instructions. Research in health care settings has compared compliance with instructions provided to patients in combined written and verbal form vs verbal instructions only. These studies primarily investigated instructions for postoperative care, such as prescribing medications or discharges from a hospital emergency department. It was found that both recall and compliance were improved when both written and verbal instructions were given to the patient vs verbal instructions only.¹⁹ Another study indicated that individuals retain 20% of what they hear but remember 50% of what they hear and see, provided the visual input is not removed instantly.¹⁹ Patients frequently forget information that is provided verbally.²⁰ Written materials have the advantage of being available to refresh a person’s memory as needed.²⁰ Patients usually desire and appreciate having written materials.²⁰

Studies have also demonstrated that written instructions for patients can be an effective way to improve patient’s knowledge about their therapy. There is no evidence that written instructions can or should be replaced by verbal consultation. The best effects are evident when both written and verbal instructions are presented.¹⁹ Written materials should be used to supplement or reinforce information that is presented verbally, as this reinforcement can have a positive impact on the effectiveness of patient teaching, such as maximizing a patients’ knowledge and adherence to treatment.^{20,21}

Hoffmann et al.,²⁰ suggested that whenever written materials are designed for patients, they should be such that they are written simply and at the lowest reading level possible to convey the information accurately. Also, whenever the reading ability of the target group cannot be predetermined, a fifth to sixth grade reading level should be considered as an appropriate goal for health care materials. The use of serif type fonts and a minimum font size of 12 point should be used. Patients have also found illustrations to be of value, since illustrations can make the material more attractive and, therefore, more likely to be read. Each illustration should communicate a single idea.

It is desirable to develop a circumstance in which the positive aspects of the parent in the operatory can be attained while eliminating as many negative aspects as possible. The latter can be accomplished when the parent is a silent, passive observer while present in the dental operatory. This study accepted the clinical perspective of Wright³ and Molinari,¹¹ that if the parent is permitted to remain in the operatory with the child during restorative treatment, the parent should be a silent, passive observer.

The purposes of this study were to determine: (1) compliance in requesting parents to remain silent (non-communicative) when accompanying their children into the dental operatory for restorative care; and if any difference in parental compliance existed when combined written and verbal instructions were given to a parent vs written instructions only.

Methods

The protocol for this research was approved by the Institutional Review Board of the University of Kentucky, Lexington, Ky. In planning this study, it was assumed that the rate of compliance to written instructions would be approximately 50% and that adding verbal instructions would increase the compliance rate by 60% to 80%. Therefore, with a planned sample size of 45 subjects per instruction arm, a chi-square test of independence would have at least 80% power to detect a difference of 30%, provided one of the groups had a compliance rate of 50%.

Only a total of 39 parents of healthy 4- to 9-year-old children, however, were enrolled as participants in the study. These were parents of children who presented to the pediatric dentistry residency clinic at the University of Kentucky for routine restorative dental treatment. There were no gender, race, or ethnic restrictions in identifying participation or exclusions based on methods of payment for services. All children and their parents, however, spoke English as their first language. Participants were identified based on their need for restorative care, with or without any previous dental experiences. Children younger than 4 years old, with special health care needs, and requiring sedation or the use of the papoose board were excluded from the study.

Parents and children who met the selection criteria were invited to a consultation area, where they were informed of the study and asked if they would be willing to participate. A valid informed consent to participate was obtained from the parent. A verbal assent was obtained from the child. Parents were randomly assigned to 1 of 2 groups using a research randomizer of the Social Psychology Network. One group received written instructions from the dental assistant for being present in the operatory as a passive, silent observer. The other group received the same written instructions from the dental assistant, but with the identical instructions verbally reinforced by the dentist (Figure 1).

Simple Measure of Gobbledygook (SMOG), a reading ability formula, was used to develop the grade level of the written instructions.²² The intent was for the written instructions to be able to be read by a parent whose reading comprehension level was between the fifth and sixth grade.

Procedures. Parents and children assigned to receive written instructions only were given the written instructions by the dental assistant, without the dentist present. Parents and children assigned to the combined written and verbal instructions group were given written instructions by the dental assistant, with verbal instructions by the dentist. The dental assistant and the dentist were the same in all instances; both were female.

As seen in Figure 1, the written instructions had 2 illustrations showing the negative role parents can have in the operatory by communicating verbally with the child or dentist. One illustration showed the positive role of the parent when present with their child in the dental operatory. Written instructions for both groups were identical, except that one group had the instructions reinforced verbally by the dentist by reading to the parent the identical written instructions, with the negative implications of parental communication explained.

The group receiving combined written and verbal instructions was permitted to ask any questions of the dentist prior to being seated in the operatory, whether it was about the instructions to be a passive, silent observer or the dental treatment planned. The group receiving the written instructions only was permitted to ask the dental assistant questions about the instructions to be a passive, silent observer prior to being seated in the operatory. The dental assistant only answered direct questions

and provided no elaboration. As is customary, the dentist answered any questions regarding the planned dental treatment prior to entering the operatory.

Two types of responses were provided by the dentist when a parent did not remain silent. If the parent had a comment during the child's treatment, the dentist's response was: "As indicated in the instructions, verbal interruptions during treatment have a potentially negative effect on your child's care. I encourage you to be a silent watcher." If a parent had a question during the child's restorative treatment, the dentist's response was: "As indicated in the instructions, verbal interruptions during treatment have a potentially negative effect on your child's care. I will answer all of your questions at the conclusion of the treatment. I encourage you to be a silent watcher."

Each parent was escorted to the dental operatory, where they were positioned in a seat to the side and near the end of the dental chair in which the child was seated. Local anesthesia was administered. Procedures such as intra-coronal restorations, stainless steel crowns, pulpal therapy, or extraction of primary teeth were performed, as indicated. A rubber dam was routinely used for restorative procedures. Nitrous oxide was used only when the dentist determined it was required. The dentist utilized psychological behavioral management skills, which are customarily employed. The dentist was aided by one dental assistant, who was utilized throughout the research.

Research data were recorded by the dentist and the dental assistant. Parental compliance with instructions was recorded on a scale of 1 to 4, as such:

- 1=parent remained silent and compliant throughout;
- 2=parent interrupted once;
- 3=parent interrupted twice; and
- 4=parent interrupted 3 or more times.

Additional data recorded included: age of the child on the day of treatment; restorative treatment provided at the time of interruption; point in time in procedures when the interruption occurred; and whether the parent's interruption was an attempt to speak with the dentist, child, or assistant. Data were also recorded about whether or not the child had previously experienced restorative treatment; and parent was present or absent from the operatory at that appointment.

Statistical analysis. The response variable in this study was whether the parent interrupted the dental visit. Fisher's exact test was used to compare if interruption was associated with the 2 types of instruction: (1) the type of caretakers; and (2) the age of the children. Variables other than the response variable (eg, overall silent rate, silent rates by caretakers, previous dental experience) were described by descriptive statistics (ie, percentages). All data analysis was performed using SAS 9.2 software (SAS Institute, Inc, Cary, N.C., USA).

Results

Most parents (32 of 39; 82%) remained silent in both instruction groups. The written and verbal reinforcement group was slightly more compliant, with 18 of 21 parents remaining silent (86%) vs the written instruction group, of which 14 of 18 remained silent (78%). This proportionate difference, however, was not significant ($P=.68$).

Mothers were the majority of the participants: 29 of 39 (74%). Although not statistically significant, mothers did not follow instructions to remain silent as frequently as did fathers and legal guardians ($P=.45$). Six of 29 mothers (21%) did not comply with instructions. Six of 7 fathers followed instructions (86%), while legal guardians remained silent throughout.

Proportionately more mothers (87%) receiving verbal reinforcement of written instructions by the dentist were silent vs those given only written instructions (71%).

All 9 parents who had children with no previous dental experience remained silent. All 7 non-silent parents were those whose children had previous dental operatory experience.

Although the instructions in both groups were generally effective, instructions to be a silent observer appear to be less effective with those parents whose child has previous experience with a dentist (23 of 30 compliant; 77%). Parents of children with no previous dental treatment were compliant 100% of the time (9 of 9). For parents whose children had previous dental experience, written instructions with verbal reinforcement appear to be more effective (15 of 18; 83%) vs written instructions only (8 of 12; 67%).

Three of the 7 interruptions (43%) occurred 1 time only. In all cases, the parents realized immediately they had made a "mistake" by speaking/interrupting. Four parents, however, interrupted multiple times throughout the treatment. In all of the interruption cases, the child had experienced previous dental treatment.

Proportionately, more parents of 7- to 9-year-olds were less compliant (6 of 24; 25%) than parents of 4- to 6-year-olds (1 of 15; 7%). This finding was not significant ($P=.22$). This occurred, despite the fact that in all 7 instances the child's behavior was evaluated as being cooperative.

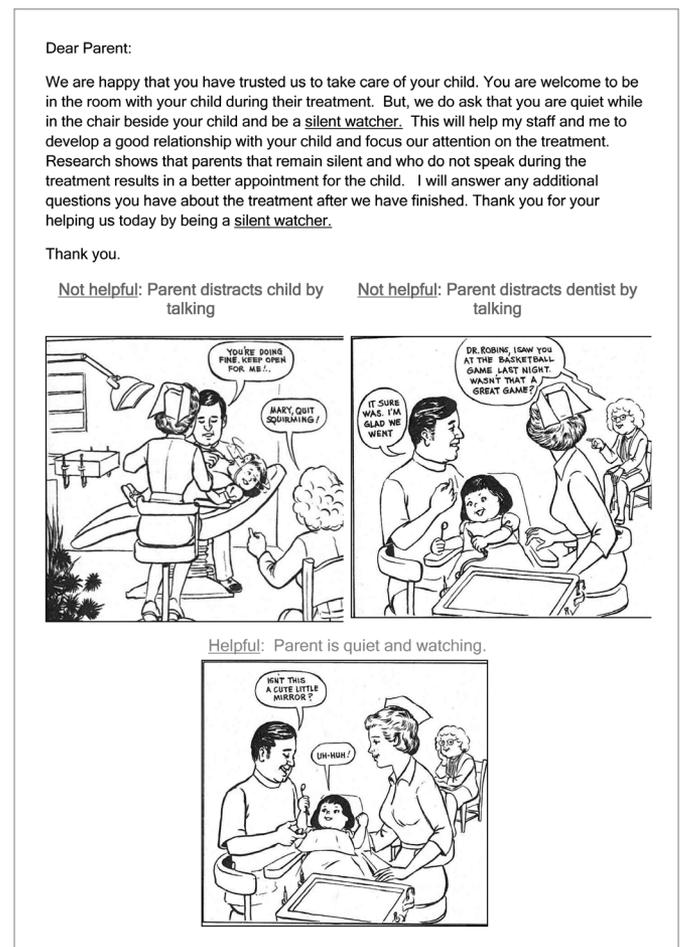


Figure 1. Written Instructions Provided to the Parent.

Discussion

Parenting styles have changed significantly over the past 40 years. Parents want to be active participants in their children's lives, which, in extreme cases, has given rise to the term "helicopter parent."²³ Additionally, the advent of the Internet has resulted in a generation of parents who may be more informed about dental treatment options than parents of the past. Dealing with this new style of parent may prove to be challenging for the dentist attempting to provide dental care for children.

There seems to be an increasing perspective among clinicians that it is beneficial to have the parent present in the operatory while the child is receiving treatment, possibly due to the ability to communicate with the parent while the child is receiving care. This appears to be a change from earlier years, when parents were traditionally expected to remain in the reception area. The parent must remain "silent," however, so as not to compromise the treatment being provided or create barriers to the rapport established between the child and the dentist. Hence, this study evaluated whether it was possible to institute the policy, first recommended in the literature by Addeleston, of a "silent chair."

It is possible that the "silent chair" has the potential to increase the productivity of the dentist during an appointment, due to the lack of disruptions caused by the parent. There is some evidence that parental presence may have a positive influence on a child's anxiety and behavior during dental care.⁶ A critical element needed, however, is to ensure that the parental presence does not become a barrier to the development of rapport between the child and dentist.³ Instructing parents to be silent observers when accompanying their children into the dental operatory will generally result in parental compliance and potentially result in parental presence helping to facilitate care vs being a barrier to care. Dentists who believe that parents in the operatory have a negative effect on managing the children's behavior can assume that providing instructions to parents to remain silent observers will result in compliance.

Implementing the "silent chair" does not introduce any new risk or require incremental resources from the practice (ie, incremental staffing, monetary funding, etc.); it only requires the motivation to implement. Should such a policy not prove effective, for whatever reason, it can be readily discontinued.

In all instances of noncompliance with instructions to remain a silent observer, the child had received previous dental treatment by another dentist in which instructions to remain a silent observer had not been given, nor was such behavior expected (according to the parents). Such a situation suggests that noncompliant parents had the challenge of complying, but with a history of a circumstance where speaking/interrupting was permitted. The results of this study suggest that, in a practice where instructions to remain silent are routinely provided to all parents, it may be expected that the overwhelming majority will comply.

While not statistically significant, there was a tendency in this study for those randomized to written and verbal instructions to have higher rates of compliance to instruction than written instructions alone, probably due to the dentist being an authority figure for the parent. This is consistent with previous studies suggesting that combining written and verbal instructions results in improved knowledge and adherence to expectations.^{17,18} A limitation of this study was the smaller-than-proposed sample size. Additionally, the rates of compliance were higher than expected. The primary comparison resulted in a difference of 8%. Given that the written instruction compliance rate was

nearly 80%, the authors would not consider this difference clinically meaningful.

Although all parental types were generally compliant with the instructions, it is interesting to note that mothers were generally less compliant than fathers or legal guardians. Mothers are generally the parents who bring their children to health care appointments.²⁴ Therefore, both written instructions with verbal reinforcement by the dentist (the authority figure) should be utilized to maximize the probability of the mother remaining silent.

While the role of visual representations in instructions was not evaluated in this study, it was the subjective impression of the dentist and the dental assistant that the illustrations utilized in the written instructions should capture the attention of the parents in an engaging and relevant way. Thus, their use seemed to positively reinforce the written instructions and the rationale for remaining a silent observer.

It is possible that parents of older children tended to be less compliant to remain silent than parents of younger children due to the parental concern that their child's age would result in them being more cooperative than was being observed. Another possibility is that older children had experienced previous dental visits, in which the parent had been present in the operatory and was permitted to speak, thus creating an expectation of doing so.

Future studies should evaluate whether a difference exists between written instructions only vs verbal instructions only. It would also be desirable to determine if the use of visual illustrations improves compliance with written instructions vs written instructions absent of such visuals.

Conclusion

Based on this study's results, the following conclusion can be made:

1. Parents can be expected to comply with instructions to remain silent in the operatory when given either written or combined written and verbal instructions to do so.

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