THE ORGANIZATION OF CONVERSATION BETWEEN DENTAL STUDENTS AND PATIENTS: A CONVERSATION ANALYSIS PERSPECTIVE

by

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Abstract

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This study looks at the conversational exchanges between dentist and patient in order to analyze how dental treatment is accomplished through talk and interaction. Dental students and patients were videotaped while conducting a pre-treatment interview during which the student solicited information from the patient that was essential for effective dental treatment. The theoretical concepts of classical conversation analysis as well as the domains of conversation analysis that apply to institutional settings are reviewed and utilized to observe and analyze the interactions.

The Organization of Conversation Between Dental Students and Patients: A Conversation Analysis Perspective

Most of us do not look forward to a dental visit and only see a dentist when a problem occurs. Since we do not consider dental problems to be life threatening, minor problems are often overlooked or, at least, are not high priority concerns. It is only after a minor problem develops into pain and the pain becomes intolerable that reluctantly we contact a dentist. The concept of prevention of health problems has not caught on in dentistry to the same extent that it has in the medical profession. Maintenance of your teeth does not necessarily prolong your life. We are told that gum disease leads to the loss of teeth. However tooth loss does not have the same consequences as the loss of heart function due to cholestrol accumulation in the arterial system. Therefore, unlike the medical doctor, the doctor of dentistry is dealing with a patient who is often reluctant to have treatment performed. Dentists need to convince patients, or potential patients, that treatment is necessary or desirable. Publications dealing with dentist/patient communication have been primarily devoted to this aspect of communication. A literature search conducted as a preliminary to this research revealed published papers on the subjects of effective communication methods to establish dental team/patient rapport and trust (Jepsen, 1987), and

communication methods of how to convert the patient to the dentist's health beliefs and standards for dental treatment (Anderson, 1986). In addition several texts have been published for students of dentistry and dental auxiliaries which teach communication skills (Chambers and Abrams, 1986; Wiles and William, 1982; Wright, LeBloch and Lapin. 1986). The purpose of these publications is to teach the practical application of communication skills so that the dental team can more effectively motivate patients, or consumers, to subscribe to improvement or maintenance of their dental health. These publications, therefore, are practical guides of how to communicate in order to promote a successful dental practice.

Communication and language then are very important parts of the dental practice, but there is no focus in the dental literature that examines doctor/patient communication as a topic in its own right. In these works it seems that the character of the "talk" is treated as unproblematic. The only problem is to correctly convey the appropriate persuasive idea in order to facilitate dental treatment. However, in addition to the persuasive aspects of communication, much of the dental treatment is actually done through language exchanges between the doctor and patient. It is through conversation that the dentists acquires pertinent information about the patient which allows him/her to treat the patient effectively. As the fundamental condition of professional work is done in conversational exchanges, an

analysis of these exchanges can provide valuable information about the effectiveness of the delivery of dental treatment (Shuy, 1983).

This study focuses on "talk" as a phenomenon, and looks at the discourse between dentist and patient as a sourse for an analysis. The purpose of the study is to analyze how dental treatment is done through conversational exchanges. Dentists and patients were videotaped while conducting an initial pre-treatment interview. The "talk" is generated as the doctor solicits specific information from the patient regarding answers given on a medical/dental health history questionnaire. This collection of answers is a resourse for doing subsequent diagnostic work. An accurate presentation and understanding of the information by both participants of the interview is essential for effective dental treatment. The aim of this study is to observe these dentist/patient conversational interactions and to examine the organizational structure of interactions in order to determine how an account of specific information is accomplished and displayed. The theories and methods of classical conversation analysis of Sacks and colleagues (1974; 1977), along with the contemporary works of Fisher (1986), Frankel (1984; 1990), Psathas (1990), and West (1984) on institutional talk in the medical setting are utilized to observe and analyze the interactions.

In the first section of this paper the theoretical concepts of conversation analysis are reviewed, first in the classical tradition of mundane conversation, and then in the application of these concepts to institutional talk. The methodological concepts of conversation analysis that are used to collect data and the data collection procedure used in the study are described in the second section. The data is then analyzed utilizing the concepts described in the first section of the paper followed by a discussion of the analysis.

Theoretical Concepts of Conversation Analysis

Harvey Sacks and his colleagues Emanual Schegloff and Gail Jefferson analyzed recorded telephone conversations and discovered a basic sequential organization of turn-by-turn talk between interactants. They also found that this basic sequence structure has two turns at talk which are placed adjacent to each other (Sacks, in Button and Lee, 1987). Out of these early studies came the basic orientation of conversation analysis which Heritage (1984) expressed in four fundamental assumptions.

The first two assumptions deal with theoretical principals of conversation analysis. First, all aspects of social interaction can be examined in terms of structural organization. These organizations can be treated as social structures independent of the participants. Ordinary conversation can then be analyzed as stable organizational patterns of action to which participants are oriented. These patterns of action can be demonstrated in a variety of ways, and constitute the various domains of study in the field of conversation analysis. Second, it is assumed that the meaning of any participant's talk is contextual, or locally determined. The emphasis of conversation analysis is on the local development of conversation. An interaction is managed on a turn-by-turn or local basis, and any speaker's talk cannot be understood without reliance on the preceding turn at talk

(Zimmerman, 1988). This assumption is called "context shaped and context renewing" by Heritage (1984: 242). Context shaped means that a participant's talk cannot be understood without reference to the context of the preceding action. Context renewing means that a present turn at talk becomes part of the context for the turn that follows. This contextual concept is significant because speakers draw on it in order to make sense of the interaction, and analysts can utilize the fact that participants display their understanding in an ongoing manner. Speakers/hearers reflexively shape and use the details of their talk so that the talk serves as a resource for speaker/hearer to achieve order and understanding for one another (Zimmerman, 1988).

The third assumption deals with methodology. Conversation analysis relies on a strong empirical approach to the study of social interaction and it is assumed that no order of detail in an interaction can be dismissed a priori as insignificant. This assumption dictates that researchers use an inductive method of inquiry which develops an analysis that is grounded in the details of the interaction rather than a constructed theory or a recalled or imagined discription of the interaction (Psathas, 1990). To obtain a detailed analysis it is necessary to collect data through some means that can be examined again and again without changing or distorting the data. The data collection method used by researchers is audio or

audio-visual recordings of conversations (Hertiage, 1989). The last assumption is also methodologically oriented. Conversation analysis stresses the use of naturally occurring, mundane conversation. As expressed by Schegloff, Jefferson and Sacks, (1977: 381) "language is a vehicle for living of real lives with real interests in a real world". Therefore, the laboratory of the conversation analyst must be the natural setting of the real world. Role playing or designed experimental situations would not produce the same authenticity as naturally occuring converstion (Heritage, 1989). These four assumptions form the principles of inquiry and the research objectives of conversation analysis.

According to Zimmerman, (1988: 407) conversation analysts "view conversation as a describable domain of interactional activity exhibiting stable, orderly properties that are the specific and analyzable achievements of speakers and hearers". The purpose of conversation analysis is to discover the organization of this domain and to describe the resources members of a society use to organize conversational interactions so that other members will recognize and use these resources to manage everyday interactions. Conversation analysis is primarily concerned with the observation and examination of how utterances accomplish particular actions, by virtue of their placement within sequences of actions. The sequences and turns-within-sequences are the primary units of analysis (Heritage, 1984).

Domains of Research

Conversation analysts have identified several domains of research. The most fundamental organization of talk was described by Sacks, Schegloff and Jefferson (1974) on construction and allocation of turns at talk. The turn-organized activity of a conversation, i.e., the turn-size and turn-order, was found to be locally managed by the participants and controlled through an utterance-by-utterance negotiation between co- participants. Local management is both prospective and retrospective. Each turn is prospective in that it produces a next turn. Each turn is retrospective in that it answers or is related to the topic of the previous turn. This locally managed turn-taking system has been characterized by Sacks and colleagues (1974) with a set of rules and components for turn order.

(1) The system deals with a two turn system, and allocates a single turn at a time.

(2) The single turn it allocates is a 'next turn'.

(3) The system deals with transitions, comprehensively, exclusively and serially.

Thus it is the turn-by-turn system, rather than the syntactic or semantic feature of a question or greeting, that organizes the action of the "next turn" (Sacks, et al, 1974).

The system is locally managed with respect to turn-size as well as turn-order. Turn-size and turn-order are interdependent because the mechanisms through which each is allocated are administered by the co- participants of the interaction. The speaker determines the boundaries of the turn-size. The speaker can talk so as to indicate a possible completion of his/her talk, which allows the hearer to use the transition place to either start to talk or to pass up the transition place. The "starting to talk" for example, by the next turn speaker indicates when the present speaker ought to stop the talk (Sacks, et al,1974). This allocation of speaker change demonstrates the local management in turn-size by co-participants as well as the requirement of exquisite attention to the details of the other's talk. It is the systematic turn-taking organization of conversation that obliges the co-participants to display to each other, in a turn at talk, their understanding of the other's turn at talk (Sacks, et al, 1974). This concept of turn-by-turn talk suggested ways in which a speaker would, through the production of a relevant or appropriate next action, display an understanding of the prior talk (Heritage, 1989; Levinson, 1983).

The adjacency pair concept, also described by Schegloff and Sacks (1973), demonstrates the sequencial structure of talk. Adjacency pairs are sequences of utterances that are; (a) adjacent, (b) produced by different speakers, (c) ordered as a first part and a second part.

Examples of the adjacency pair concept are greeting and responses, or question and answer, as demonstrated in the dentist/patient interview. This concept dictates that the production of talk by the first member of a pair of speakers requires a relevant or complementary action by a second speaker. In the adjacency pair structure of utterances, the first pair part of greetings or questions will indicate who is selected as the second pair part. A potentially intending speaker will need to listen carefully, examine each utterance as it is delivered, and analyze it in order to know if it selects him/her to be the next speaker. When the next speaker performs the appropriate utterance type, or the second pair part of the adjacency pair, he/she displays an understanding of the prior turn's talk as a first part greeting or question. No response, or an inappropriate or incongruent second pair part response to a first pair part greeting or question, would indicate misunderstanding of that first pair utterance. Second pair part speakers are held accountable for failures to respond, faulty responses or other interactional misunderstandings. These incongruencies are recognized and commented upon or corrected with the production of a 'third turn'. The second speaker's utterance therefore not only displays public understanding of the prior talk, but accomplishes some relevant next action. In this way the adjacency pair structure demonstrates accountability in a public testament and provides a framework for the continous updating of understandings for the researcher as well as for the co-participants of the interaction

(Heritage, 1989).

This early research by Sacks and colleagues describing turn-by-turn talk as locally managed by the participants and the adjacency pair concept initiated new areas of investigation. Conversation analysts have investigated areas such as: the initiation and management of topics (Jefferson, 1981; Maynard and Zimmerman, 1984); procedures for opening conversations (Schegloff, 1968; Schegloff and Sacks, 1973); and procedures for closing or exiting from conversation (Button and Lee, 1987; Schegloff and Sacks, 1973). The areas of conversation analytic research relevant to this study (of how dental treatment is accomplished through 'talk' between dentist and patient) are: preference organization (Pomerantz, 1984; Sacks, in Button and Lee, 1987; Wootton, 1981); the organization of repair activities (Jefferson, 1975; Schegloff, Jefferson and Sacks, 1977); the use of non-lexical speech objects (Jefferson, 1975; 1984; Schegloff, 1982); and studies of institutional talk, (Fisher, 1986; Frankel, 1984; Heritage and Greatbatch, in press; Marlaire and Maynard, 1990; Psathas, 1990; West, 1984). These domains of research describe specific structural organizations of 'talk'. Dentists and patients use these organizations to competently solicit and give information and display to each other an understanding (or misunderstanding) of the other's utterances. Through such organization, they collaboratively produce a patient's medical/ dental

health history.

The study of preference organization examines the different ways in which a second part action is accomplished, and how the features of the turn sequence influence the likelihood of the occurance of a "preferred" action over a "dispreferred" action (Heritage, 1989). Sacks (in Button and Lee, 1987: 57) notes that "if a first part question is organized in a way which exhibits a preference for a "yes" or "no" answer, then the second part answer will tend to pick that choice in an attempt to keep contiguity between the question and answer". Establishment of contiguity is a co-ordinated effort between the interactants. General principles of organization have been found that assure a contiguity between question and answer. When a question occurs in a turn at talk that includes other things, then the question goes at the end of the turn, and the answer at the beginning of the adjacent turn. This order assures contiguity between the question and answer. When two questions occur in one turn at talk, and both questions require an answer, then the order of the answer is the reverse of the order of the question. Contiguity in this situation is preserved by answering the second question first. The central idea of preference organization is that not all potential second parts of an adjacency pair are of equal standing. There is a structured difference between preferred actions and dispreferred actions. Preferred second part actions occur as structurally simpler turns at

talk, while dispreferred second part actions are structurally more complex (Levinson, 1983). The organization of dispreferred actions also exhibits general principles to assure contiguity between question and answer. If an agreeing answer occurs, it occurs at the beginning of the turn, whereas if a disagreeing answer occurs, it is put rather deep in the turn. That is, preferred actions are performed directly with little or no delay, while dispreferred actions are signaled by utterances which precede it such as "well" or "I don't know", or by a pause or delayed action. When a question is asked and there is a pause or no answer, the questioner is signaled to revise the question to exhibit the reverse preference, which prompts an agreeing answer without delay. An organizational shift to a form which invites a preferred answer of either "yes" or "no" assures the contiguity of the interaction. If there is a local misunderstanding between the interactants a compromise is achieved over a series of turns-at-talk organized to resolve the disagreement. The same principles that invite preference or agreement are employed by interactants in order to demonstrate to one another their understanding of a specific topic at hand (Sacks, in Button and Lee, 1987). In addition a knowledge of how preference organization operates in the talk segments can be analytically exploited by the researcher. For example; when an interactant hesitates prior to giving a response, both of the co-participants, and the observing researcher, may be signaled that what follows will be a "disprefered" response. Preference

organization then is one mechanism used by co-participants of an interaction, such as the dentist/patient interview, to display to each other their understanding of the accuracy of the talk.

Studies of repair organization are concerned with how co-participants of an interaction address recurrent problems in speaking, mishearing and misunderstanding. The problems or trouble sources in conversational interactions can take the form of; word recovery, word replacement or correction, self-editing where no error occured, repairs of personal reference such as changes from the singular to plural, or repairs on the next speaker selection. According to Schegloff, Jefferson and Sacks (1977: 381) "the organization of repair is the self-righting mechanism for the organization of language used in social interactions". Repair is a sequential phenomenon that takes place during turns at talk and has an organization of its own. Repair organization has an initiation segment which addresses the trouble source and an outcome segment, or the repair utterance. The initiation segment of repair can be self-initiated by the speaker of the trouble source or other-initiated by any party other than the speaker of the trouble source. The placements of self-initiated and other-initiated repairs are organized by reference to each other and occupy adjacent turns or alternate turn-by-turn between self- and other-initiation and are sensitive to preference dynamics. The self-initiation of repair turn precedes the

other-initiation turn. Self-initiation of repair is preferred over other party initiation and has different placements in the sequence of talk in relation to the trouble source. Self-initiated repair may be placed: within the same turn as their trouble source; in that turn's transition place; or in the third turn of a three turn sequence. Other- initiated repairs occur in the turn just subsequent to the trouble source and appear to withhold initiation of repair while the trouble source turn is in progress.

In addition to distinct placement, self- and other-initiations of repair have distinct initiator techniques. Self-initiation signals the possibility of repair within the same turn as the trouble source with such non-lexical speech objects such as "uh", through cut-offs and re-starts or through stretching out the word or sound. Other-initiated repair in addition to withholding initiation during the trouble source, also delays the next turn and stretches the turn transition space in order to give the speaker of the trouble source an opportunity for self-repair. A failure to self-repair the trouble source in that transition space will prompt other-initiation for repair in the next turn. A question such as "Huh?" or question words of what, who, where, or when identify a trouble source in the previous turn- at-talk. Partial repeat of the trouble source plus a question word or the phrase "Y mean" plus a possible understanding of the prior turn, signals a possible misunderstanding of the prior turn and

invites a repair, a clarification or agreement (Schegloff, et al, 1977).

Most self-initiated repairs which are initiated in the same turn as the trouble source are self-repaired successfully in that turn. Other-initiated repairs require multiple turns to accomplish repair. In the first turn, the trouble source occurs without acknowledgment by the speaker. In the second turn, the hearer of the trouble source initiates a repair. In the third turn, the speaker does a self-repair. Therefore, repair initiation, whether self- initiated or other-initiated, results in a self-correction or repair (Levinson, 1983). At times other-corrections do occur but they take the form of uncertainty, or as checks for understanding which are offered to the speaker of the trouble source for acceptance or rejection (Schegloff, et al, 1977). Repair organization then is a mechanism used by speakers and hearers of conversational interactions to co-produce an understanding of the talk-so-far.

Studies of non-lexical speech objects look at how single words or phrases are used by participants of a conversation. The studies of non-lexical speech objects or response tokens, such as; "mm hm", "oh", "ah ha", "yes" or "really" have shown that they are very prevalent in conversation, that they have a role in interaction and that they are sequentially organized (Heritage, 1989). Schegloff (1982) has shown that response tokens are heard as acknowledgements to talk when they

are placed within a segment of talk. Acknowledgments are primarily used in conversation to accomplish sequential operations. Neutral third turn responses such as "okay", "mh hum", ect., operate within segments of talk without intrusion on the content of the talk, and invite the speaker to continue by signaling receipt of prior information (Frankel, 1984). Jefferson (1984) made a distinction between the "mm-hum" of passive acknowledgement of heard information, and "yes" which suggests the curtailing of the topic of talk and a topic shift in the next segment of talk. The response tokens of "oh" or "really" have been shown to acknowledge information received and a change of state of knowledge or awareness of the information by the producer of the response token (Heritage, 1984). Non-lexical "mm-hums" can also be a third turn response to information supplied by the speaker without placing a value on the information, but merely indicating that it was received (Frankel, 1984). Response tokens are then recognized by the co-participants of the interaction as indicators of heard information and displays of understanding of the progress of the conversation.

Conversation Analysis and Institutional "talk"

The general concepts used in the analysis of mundane conversations regarding turn-by-turn talk can be applied to the study of institutional talk with some adjustments. Sacks and colleagues analyzed everyday mundane conversation which allows the

co-participants freedom to negotiate turn order, turn size, topic change, openings and closings. The conversation that takes place in institutional settings such as the court room, class room or doctors's office is distinct from mundane conversation. Institutional interaction is a distinct form of social interaction. It takes on meaning for the co-participants because they share a common culture and the resources for making sense of a particular social setting (Frankel, 1984). The institutional setting produces talk that is distinct from everyday mundane conversation, however the participants of the interaction are still speakers and hearers regardless of their role or the context of their utterances. Therefore, the turn-taking system and utterance types can still be examined and described as an interactional activity through utilization of the theories and methods of conversation analysis (Psathas,1990). Studies of institutional talk examine how co-participants manage an interaction in formal settings so that the particular work of that setting can be accomplished.

Institutional talk is task related with a specific purpose in mind, to solicit and give specific information. West (1984) has shown that the participants of a task oriented interaction, such as the doctor/patient interview, have asymmetric roles. This asymmetry influences the flexibility and organizational structure of the turn-taking system. Other studies have shown (Atkinson and Drew,

1979; Mehan, 1979; West, 1984) that lawyers, teachers or doctors take the authoritative role of the institutional setting and control the organization of the interaction. This institutional interaction takes the form of an interview rather than a conversation, with pre-allocations of turn-order and turn-type. Turn order pre-allocation refers to the prior specifications of the order in which interactants may speek. Pre-allocation of turn-type refers to what sort of turn may be produced by a given type of speaker. The professional participant, the lawyer, teacher or doctor, takes the first turn and asks the question, while the client, student or patient is obliged to take the second or answer turn (Zimmerman, 1988). Frankel's study (1984: 143) "which analyzed encounters between internist and patients found that physicians' utterances most always (99% of the time) took the form of questions, whereas patients' utterances routinely consisted of answers". Patient-initiated talk tended to be anything but questions. West (1984) found the same pre-allocation of turn-type in her study of encounters in a Family Practice Residency program. This perference for doctor-initiated questions infers a power or status role of the doctor who, through special training and experience, is in a position to help the patient. He/she therefore had the power to initiate the question and consequently restrict the action of the patient to an answer response (Frankel, 1984). The patient's acceptance of the less powerful recipient role, in this conversational task, demonstrates that the

interaction is a collaborated effort between the co-participants. This asymmetric deployment of conversational organization also exemplifies the institutional context; i.e. use of such mechanisms mark such interactions as characteristically "institutional talk".

Topic choice in "institutional talk" is controlled by the practical concerns of the participants and the task at hand. The asymmetry of the relationship between the participants and the distribution of pertinent knowledge between them structures the production of topics. West (1984) has shown that in medical interviews the doctor introduces the topic. The patient can request clarification of the topic but is not expected to expand, amend or disagree with the topic. Fisher (1986) points out that the initiation of topics predominately by the doctor is a practical matter of the role of the doctor and his/her conversational task. Therefore the doctor is obliged to introduce the topic while the patient is obliged to supply information about that specific topic. As in the pre-allocation of turn-order and turn-type, the authority of the doctor's role structures topic choice and question-answer sequences in institutional settings.

The same asymmetry of roles and knowledge in profession/lay interactions modify the mechanism for repair organization. As mentioned previously, in mundane conversation, self-repair takes precedence over other-repair. In the institutional setting, such as

the medical setting, there is a shift to other-repair by the doctor (Zimmerman,1988). This shift can help to clarify or confirm an answer, which is necessary in order accomplish solicitation of accurate information from the patient. Since an accurate account of pertinent information is essential in doctor/patient interactions, this shift to other- repair by the doctor is prevelant in medical institutional settings in order to accomplish the work of 'doctoring'.

In mundane conversation questions and answers are completed in pairs, or two turns. A third turn option to respond with an assessment or acknowledgement is open to either speaker. In institutional settings studies have shown (Frankel, 1984; Marlaire, 1990; Marlaire and Maynard; 1990; Mehan, 1979) that this third turn option is used most frequently by the initiator of the pair. The doctor, teacher or lawyer uses the third turn to assess or acknowledge an answer before the next sequence begins. This third turn provides an indication that the speaker has heard and/or understood the previous statement and establishes a non-reciprocal opportunity for the speaker to indicate his/her orientation toward the information. Mishler (1984: 76) states "the basic structural unit of a medical interview is a linked set of three utterances: a physician's opening question, a patient's response, and the physician's response to the patient which usually, but not always, begins with an assessment

followed by a second question."1.

Fisher (1986: 67) refers to this three turn sequential organization as initiation, response and comments act (IRC) and states that "it is more similar to the three part sequence that characterizes classroom discourse than it is to the two part adjacency pair that characterizes everyday conversation". Since there is pre-allocation of turn-type in institutional interactions, the use of the third turn by the professional speaker or initiator of the pair also serves as a mechanism to control the sequence and ongoing discourse. This final third turn, which establishes the end of a sequence and displays a confirmation of the information received, is frequently found in the talk generated in institutional settings.

In the analysis of institutional talk the interaction is viewed not as "mere" talk, but as the work that the co-participants do together to successfully accomplish the task at hand. Although some adjustments are required, the theoretical concepts of conversation analysis can be utilized to examine formal as well as informal conversational interactions. The purpose of conversation analysis is to gain knowledge of how participants manage the "talk" associated with everyday activities whether in a formal or informal social

1. Mishler's work in the area of medical conversation has primarily been oriented to the field of discourse analysis. However, his understanding and explanation of the sequential organization of talk described in conversation analysis, and of the turn taking structure in medical conversation is useful in this study.

setting (Zimmerman, 1988). This literature search summaries the concepts of classical and institutional conversation analysis in preparation for their utilization in a study of dentist/patient interactions. These same concepts can be utilized to investigate how, through conversational interactions, dentists and patients collaboratively accomplish the task of demonstrating to each other an understanding that specific information is accurately presented. In the next section the methodological concepts of conversation analysis are explained and the data collection method employed in this study is described.

Methodology

Methodological Concepts

As previously mentioned, research in the field of conversation analysis relies on an empirical approach to the study of social interactions. An inductive method of using observations as a basis for theorizing is the research approach (Sacks, in Atkinson and Herigate, 1984). Conversation analysts do not start with an hypothesis of what they think happens. Instead the investigation starts with close observation of a conversational interaction while it actually occurs. Through detailed observation, reoccuring patterns of talk are identified and conclusions about the structure of the conversation are made (Levinson, 1983). Other pieces of conversational data can be examined to determine if the observed pattern is consistant, and alterations in the pattern can be made to produce a more inclusively true conclusion. The method of data collection used in order to directly observe a conversational interaction in progress necessitates the use of audio or audio-visual recording of the interacation. Recorded conversations constitute what actually happens during the interaction and can be examined over and over for a detailed observation of the interaction without distortion of the data. Others can use the same data source to re-examine the data, to look at what was studied, to draw other conclusions or to

affirm the same conclusion. Therefore recordings of actual conversation in progress produce a reliable data source. The validity of the claims of the study rests not on intuition, but on the empiricially grounded critique of the recorded data (Zimmerman, 1988).

In order to study the interaction in detail recordings are transcribed. Since conversation is analyzed as a joint communicative effort of speakers and hearers, the focus of transcripts is to detail such qualities of speech as pauses and hesitations, nonlexical features such as "huh", or interruptions and overlaps between speakers. Transcripts are prepared in great detail with explicit rules and procedures to standardize the format of the typescripts. Jefferson has been largely responsible for developing the transcript notations used by conversation analysts (Button and Lee, 1987). Transcripts allow analysts to see what is being said by the interactants, and help to discover the structure of talk which perhaps was not apparent in just listening to a smooth and rapid flow of talk. Transcription then is the first level of analysis, and presents models of conversational interactions that are further analyzed. Analysts then move back and forth between the recordings of the actual interaction and the detailed transcripts in order to ground their analysis and interpretation in the data (Sacks, et.al., 1974).

Data Collection Method

The data collected for analysis in this study consisted of twenty-one videotaped interviews between dental students and clinic patients at a Midwestern university dental school. The tapings were made one day a week over a period of two months during the fall semester of the school year. This taping schedule was chosen for two reasons; first, the videotaping equipment was available only on certain days and second, by taping one day a week a larger and more diverse student participation could be obtained.

The location of the videotaping was in the dental clinic's patient screening area. This area of the dental clinic consists of eight dental operatories, six of which are enclosed on three sides and share a common walk-way. One of these six was chosen for all the tapings because of its larger size in order to accommodate the video equipment, and because it provided more privacy and reduced the possibility of background noise. This operatory contained the same dental equipment as all of the other operatories in the patient screening area, which consisted of; a patient dental chair, an examimation light, suction equipment, instrument tray containing dental instruments, and a stool for the dental student. The normal operatory environment was necessary because the patient would be given a dental examination after the taped interview. For the purpose of

this study, this environment produced an atmosphere of a real life dentist/patient encounter. The only difference between this operatory and the others in the area was the presence of the video camera and microphone. In order to be as unobtrusive as possible, the video camera was placed to the back of the operatory out of direct sight of the subjects. The microphone was attached to the stand of the instrument table and dental examination light. This position placed it within audio range of both the dental student and patient subjects and as unobtrusive as possible.

Subjects

The dental subjects were self-selected volunteer subjects from a group of students who were assigned to work in the patient screening area of the dental clinic. The eight students who volunteered were in their junior year of dental school and had completed one summer semester of clinical practice and two courses the previous semester which dealt with interpersonal interactions and communication, including role playing experience. In addition they had participated in an orientation program instructing them of the specific techniques and requirements of the patient screening interview and had interviewed several patients before volunteering to participate in the study. The student subject sample was composed of one female and three male students who were American born with English as a first

language and one female and three male students who were foreign born with English as a second language. Their age range was approximately from 24 to 30 years of age. Since junior dental students are accustomed to being closely observed while working with patients, the fact that they were being videotaped did not seem to alter their behavior. Observation is part of the natural setting of their clinical environment and does not seem to interfere with the performance of their tasks.

The patient subjects were also self-selected volunteers. Participation in the study was solicited of all patients who presented themselves to the clinic screening area on the days of videotaping, of which twenty-one patients volunteered. The patient subject group was composed of both male and female subjects and ranged in age from young adults of ninteen years through middle aged to the elderly of seventy-plus years. The patient group also consisted of both American born with English as a first language and foreign born with English as a second language. Some of the patient subjects were new to the dental school clinic while others had been patients previously and were returning for continued treatment. The dental patient volunteers, after being informed of the study which involved videotaping, indicated that this form of observation would not interfere with their purpose for seeking dental treatment at the clinic. For the returning patients, observation was a normal

occurance during treatment, while for the patients new to the clinic, the entire experience was novel, and therefore we can assume this form of observation seemed normal to the environment. Furthermore as Maynard (1984: 22) points out "Participants have a practical interest in what they are doing and are unlikely to let an outsider interfere with the normal performance of their jobs". Observer influence was also minimized for the patients by positioning the video equipment outside of their normal peripheral field of vision.

Before the videotaping procedure began, all subjects were asked to sign an agreement of consent form for research subjects which described the study and informed them of their participatory function in the study. (see Appendix A).

Procedure

Each student subject was instructed in the same manner about the study and their responsibilities. They were instructed to solicit the patient's voluntary participation and to follow the same procedure that they would for any patient screening interview. The only extra activity they needed to perform was to start and stop the video equipment. Each patient subject had filled out the school's Medical/Dental Health History Questionnaire (see Appendix B) prior to entering the patient screening area as was the routine procedure for all clinic patients. This questionnaire is the instrument used by the

dental school to screen patients for acceptability into the school's dental treatment program and to obtain information about the patient's existing or past medical or dental problems. The questionnaire also served as the instrument for conducting the dentist/patient interview of this study. Because of the nature of some of the queries of the questionnaire, the students were instructed to eliminate the use of the patient's name during the taping procedure in order to protect the patient's confidentiality and anonymity. Each student subject was requested to tape two or three different patient interviews during the six hour day. During each interview, the dental student discussed with the patient their purpose for seeking treatment at the clinic and reviewed the same specific information of the medical/dental health history of the patient in order to assure that the information was correct. Multiple interviews by each student were requested in order to enable the student to become more comfortable with the videotaping, to provide several examples of his/her interviewing technique with different patients, as well as to allow for unusable interviews because of technical errors, such as background interference or equipment failure. During the taping sessions the video equipment malfunctioned three times, however one student was able to tape three additional interviews to replace those lost to technical problems. The length of the individual interviews ranged from approxmately two minutes to ninteen minutes with a total videotape time of two hours five minutes in length. Each interview is identified with a character

of the alphabet and a number. The student subject is designated by a character and the patient subject by a number.

The audio portion of the videotapes was transfered to audio cassettes which were then used to make transcriptions of the interactant's utterances. A rough transcript of each of the twenty-one interviews was made by the principal researcher and an assistant. The notation conventions developed by Jefferson (Sacks, et. al., 1974) were used to indicate pauses, overlapping talk, unclear utterances, intonations and emphasis of utterances. Correct spelling of words instead of phonetic spelling was used to make the transcript readable. The completed transcripts consisted of over 2000 turns-at-talk. The rough transcript was then compared to the videotape for accuracy. Corrections or additions of utterances, as well as indications of timed pauses between utterances, were made to up-grade the detail of the transcript for use in analysis of the data.

Analysis of the Data

Analysis of the transcribed data focused on the organizational structure of the "talk" between the dental student and patient and how their particular sequences of utterances demonstrated to one another an understanding that an account of specific information had occured. In order to accomplish the work of dental treatment it is essential that the dentist, in this case the dental student, has accurate information and understanding of the patient's present and past medical and dental problems and treatments. Sharrock and Anderson (in Button and Lee, 1987: 312) point out that "understanding is not something which is automatic or assured and parties must therefore reciprocally design their respective remarks in such ways that the projected recipient of them will see what they are saying." Understanding is then achieved through the sequential organization of conversational utterances. This analysis looked at how the dental students and patients reciprocally designed their utterances so that each saw what the other was saying.

Utilizing the theoretical concepts of conversation analysis previously described as locally managed turn-by-turn talk, an inital observation of the interview's question and answer sequence indicated accomplished solicitation and understanding of information through a very simple organizational structure. Understanding of the preceding

turn at talk was displayed by the production of a relevant or appropriate next turn which began immediately on completion of the preceding turn. Each of the twenty-one interviews contained examples of this organizational structure. An example of this simple question and answer organization is from interview A-2.

A-2

5. DS: OKay. Um, do you have any arthritic pain or anything
6. in that order?
7. DP: No.
8. DS: Any HEart pains that you know of?
9. DP: No.

In this example there was no delay between the question and answer of the adjacency pair. The second part response was given immediately and was congruent or revelant to the first part question. The dental student began a sequence by asking a question pertaining to arthritic pain (line 5). The patient's response of "No" in line 7 indicated that he understood the previous utterance as a question directed to him. The fact that there was no delay in the response indicated to the student that the patient also understood the context of the question and answered with a relevant utterance. The dental student then continued the interview (line 8) with the next sequence and utterance that dealt with a new topic of heart pain. The action taken by the student to continue the interview with a new topic indicated

that the student accepted the previous utterance by the patient as an accurate response to the previous topic of arthritic pain. The patient again immediately completed the next sequence with a simple lexical item that was appropriate to the first part question. (line 9) In this example the second part utterance type and timing brought about the action of the dental student to continue the interview which indicated that both participants of the interaction understood and accepted the utterances as revelant to the topic. This structure of sequences, which is completed in single lexical items such as a "yes" or "no" response, is termed question-answer chains. The "chain rule" describes an interaction in which a speaker's turn is limited to a single utterance, one answer, and then the speaker must turn the floor back to the questioner. Question-answer chains are common in doctor/patient interactions that deal with a review of symptoms or history taking (Frankel, in Psathas, 1990).

Another adjacency pair question-answer chain sequence common in doctor/patient and other institutional interactions takes the form of an abbreviated question. The first part question is reduced to a single word which prompts a second part answer of a single lexical item (Marlaire, 1990; Marlaire and Maynard, 1990). All of the dental student/patient interviews contained examples of this sequence structure. An example from interview H-2 demonstrates the use of the abbreviated question structure.

H-2

31. DS: Ah, do you have arthritis?

32. DP: No.

33. DS: Diabetes?

34. DP: No.

35. DS: Thyroid problem?

36. DP: No.

37. DS: Asthma?

38. DP: Yes.

39. DS: Tuberculosis?

40. DP: No.

In this interaction, the dental student began the question-answer chain with a full question (line 31). This indicated to the patient that the utterance is addressed to her, "do you have", and about a specific disease, "arthritis". The patient's immediate and appropriate response of "No", indicated to the dental student that the question and its context were understood. The dental student's next question (line 33) was then reduced to a single word, "Diabetes". The action of reducing the structure of the question indicated to the patient that her prior "no" response, in addition to being accepted, was also understood by the dental student as; "I understand that these are questions about my health history, therefore, it is unnecessary to

repeat the phrase 'do you have'". The reduced form of the question continued for the next four questions (lines 35, 37, 39 and 41) followed by an immediate single lexical response from the patient (lines 36, 38 and 40). In institutional settings, such as teacher/student or doctor/patient interactions, when the second part response is performed successfully the first part question is often reduced from a full question to a single word (Marlaire, 1990; Marlaire and Maynard, 1990). Reduction of the question indicated that both participants of the interaction, the dental student and the patient, appropriately understood the general topic of the question-answer sequence as pertaining to the patient's current health problems. As a practical matter it was therefore unnecessary to use a full question to solicit an appropriate response.

These two examples from interviews A-2 and H-2 demonstrated through locally managed simple question-answer adjacency pair structure how the participants of this study indicated to each other through their utterances an immediate understanding of the context of a specific topic. The first turn question produced an immediate and complementary second turn response which prompted the first turn speaker to begin another question-answer two part sequence. No elaboration or confirmation was required by either participant.

Another organizational structure used by the dental students and patients to indicate understanding and acceptance of an answer was the three part sequence of; question, response and comment. The third turn comment was frequently used by the student to acknowledge or confirm the patient's response. An example which demonstrates use of the third turn option is from interview G-1.

G-1

11. DS: Are you taking any kind of medication?

12. DP: No.

13. DS: No. (2.0) How long ago was it?

(referring to a previous question)

14. DP: That was April of 90.

15. DS: April of 90.

The sequence again was initiated with a question posed to the patient by the dental student. (line 11) The patient immediately responded with a revelant single lexical response of "No". In this interaction the dental student then used a third turn to repeat the patient's "no" response. (line 13) The third turn served as a confirmation to the patient that the dental student heard and understood her response to the question of taking medication as "no". A two minute pause in conversation occured at this point while the student wrote in the patient's chart. He then pursued a previous topic concerning the patient's past hospitalization, with the utterance "How long ago was it?". The patient again immediately gave a congruent response to his

question with the utterance "That was April of 90". (line 14) This response indicated that she understood the topic change and context of the student's question. A third turn partial repeat of the patient's utterance was again used by the dental student to confirm the answer and as a check for accuracy. As previously mentioned, in institutional settings the third turn option is used by the initiator of the question, the professional speaker, to confirm an answer and also to end a sequence and begin the next sequence with a new topic (Fisher, 1986; Frankel, 1984). In this interaction solicitation and understanding of the information was accomplished with the repeat and partial repeat of the patient's utterances by the dental student. The lack of a corrective utterance by the patient indicated that the information as stated and heard was correct. The student's third turn was not elaborated on by either participant which indicated accepted understanding of the information.

In addition to the use of question-answer chains, abbreviated question chains, and third turn comments the participants also used an organizational structure consisting of non-lexical speech objects or response tokens. As previously mentioned, non-lexical "mm-hum's" when placed within the segment of talk invite the speaker to continue without intrusion on the talk. The organization of response tokens within utterances was frequently used by the dental students as is demonstrated in interview H-1. The elderly patient of this interview

had a speech problem due to an illness which caused him to pause frequently within utterances.

H-1

28. DP: But (1.29) my Inability (1.50) to (1.26) move
29. Food out of my mouth with my [tongue]
30. DS: [Mm-hum]
31. DP: (1.46) is a Problem. (2.86) I started to
32. Notice (1.25) behind the (.) upper (.) Rear
33. [tooth]
34. DS: [Mm-hum]
35. DP: (.98) on the left side (1.86) I was getting
36. (2.73) a Bump in my [gum.]
37. DS: [Mm-hum]

During this part of the interview the patient explained to the dental student his reason for seeking treatment. The student interjected a neutral "Mm-hum" response (lines 30, 34 and 37) to acknowledge that he heard the information without interrupting the patient or placing a value on the information. The dental student in this interaction accomplished the task of soliciting information from the patient by signaling understanding of his utterances without interrupting him, which also served as an invitation for him to continue. The patient indicated his acknowledgement of the dental student's understanding by continuing to give information. The use of response tokens is often employed in medical interviews by the doctor to show acknowledgement,

agreement or understanding of the patient's symptoms while inviting him/her to continue to give information (West, in Fisher and Todd, 1983). The co-participants of this interaction both recognized the meaning of the response tokens and utilized them in order to display an understanding of the ongoing "talk".

The previous examples of solicitation and understanding of information by both participants of an interaction were accomplished through simple organization of the talk in adjacency pair questions and answers, and in acknowledgement or confirmation turns at talk. Further analysis of the data showed that conversational misunderstandings also occurred and requests for clarification or elaboration were necessary in order to accomplish the collabrative task of presenting an accurate account of the information.

In the adjacency pair question and answer organization an appropriate second part answer is required immediately following the completion of the first part question. A failure to answer, or an answer that is not relevant to the context of the question is considered a breach of normal conversation. This breakdown in organization signals the first turn speaker of an interactional trouble source of misunderstanding, an unwillingness to respond or a disagreement with the first turn speaker (Frankel, 1984). The second turn speaker is held accountable for the conversational trouble source turn with a re-issue of the question or a probe for an acceptable

answer by the first turn speaker. The most frequent conversational trouble source in the dental student/patient interviews was a delay in response to the question. The dental student upon recognition of the trouble source turn took action to clarify or repair a possible misunderstanding as is demonstrated in interview E-2.

E-2

25. DS: .....ANYthing you know that you are
26. allergic to?
27. DP: Not that I know of.
28. DS: Have you taken PENicillin before?
29. (1.45)
30. DP: No.
31. DS: You have NEVER taken penicillin before?
32. DP: No.
33. DS: So, you wouldn't know if you are allergic
34. to it. Okay.

The interaction began with the dental student asking a question about possible allergies with an emphasis placed on the word "anything". The patient immediately responded in the next turn. Solicitation and understanding of the information appeared to be accomplished in a simple two turn question- answer sequence. The next sequence, again initiated by the dental student, dealt with a new topic of penicillin. (line 28) However, to the dental student, this topic was related to the topic of possible allergies. The patient this time paused for

1.45 seconds before responding with a "no" answer. The pause signaled the dental student of trouble in the interaction which prompted her to take action to confirm the "no" answer. She re-issued the question (line 31) with an emphasis on "never", to which the patient responded immediately with a certain "no". The student then took a third turn (lines 33, 34) to clarify the "no" response this time relating it to the topic of possible allergies. She then completed the third turn with a final acknowledgement response token of "okay". In order to collaboratively present an accurate account of the information regarding allergies and a possible allergy to penicillin, the participants needed to work through a series of turns-at-talk. The student recognized the pause in line 29 as a problem for the patient in either misunderstanding the question, a failure to recall accurate information or a reluctance to answer because of a conflict in this answer and the answer to the previous question. Since it was essential for the student to obtain accurate information about allergic reactions to penicillin, she could not simply accept the "no" answer after the pause. In order to clarify the reason for the pause, she re-issued the question stating it differently. Upon receipt of a more preferred confirming "no" answer, she continued to clarify the answer to be sure that the information about penicillin was accurately related to the topic of allergies. The student completed the sequence with an acknowledgement to the patient that she accepted and understood his answer to both topics. In this interaction the

co-participants used several organizational structures in order to reach an understanding of the breach (the pause); preference organization with a re-issue of a question after the delayed response in line 29, other initiated repair of possible misunderstanding of the question to penicillin in line 31, use of the third turn for a confirmation check of the information and a final response token acknowledgement of the information in lines 33 and 34.

Another interactional trouble source indicating possible problems with the information given in the dentist/patient interviews was the appropriateness of a response. At times the patient responded with an utterance that the dental student, because of his/her acquired professional knowledge, considered to be incongruent to the question. A second part answer which is incongruent, irrelevant or inappropriate to the first part question must be held accountable, since in conversation analysis no part of the talk is inconsequential. In these instances the dental student took action by issuing a probe to clarify the information. Interview F-1 is an example of how the dental students clarified what they considered incongruent answers to their questions.

F-1

22. DS: Alright, are you currently on any medication?

23. (2.80)

24. DP: Household vitamins.

25. DS: Just vitamins?

26. DP: Yeah.

27. DS: You're not taking any (.) umm (.) blood

28 thinners like Digoxin or rather Coumadin?

29. DP: No.

30. DS: I saw that you were on Digoxin at one time.

31. DP: Long time ago, (.) Heart surgery.

32. DS: Okay, (.) that makes sense.

The dental student's utterances started the sequence with a question to the patient concerning medications. After a significant 2.80 second pause, the patient responded with "Household vitamins". The student was signaled by two interactional phenomena that a problem in understanding occurred. First, as in the last example, the pause before the response utterance and second the context of the utterance. In addition to the knowledge that vitamins are not considered medications, the dental student had knowledge, which was indicated in the patient's medical history, that he had been on medications. The student (line 25) initiated a repair of the trouble source turn with the question "Just vitamins?". The patient immediately responded to this repair question with a confirming "Yeah" answer, which indicated that he understood and answered correctly to the question about current medications. The dental student demonstrated that he was not satisfied with the patient's repair turn response by initiating another repair this time probing for more detail about specific

medications. (lines 27-28) In this turn he also did a self-initiated repair. The dental student replaced the name of one medication (Digoxin) with that of a similar medication (Coumadin) which prompted the patient for specific medications. The patient again gave an immediate response which indicated he understood the question. At this point the dental student, who still was not accepting of the patient's response used an other- correction turn to probe for more information about a specific medication the patient had taken. (line 30) The probe was successful in soliciting the information needed by the student. The patient responded with a relevant utterance which explained his current non-use of medications. The dental student then completed the sequence with a third turn (line 32) to indicate that he now understood the context of the patient's responses to his questions and accepted his answers. In this interaction the participants needed to work through eight turns-at-talk in order to collaboratively present information about the patient's current use of medication. Each time the dental student initiated the first part question of the adjacency pair the patient completed the sequence with a second part answer; however, the answer in the student's mind was incongruous or did not type-fit to his question. Conversational trouble sources or misunderstandings or uncertainty are typically resolved with a series of turns-at-talk until the context of the talk is resolved by both participants. In doctor/patient interactions it is typically the doctor who takes the responsibility to resolve the trouble source

through initiation of repairs since understanding of accurate information is a practical matter of the doctor's "work" of diagnosis and treatment (West, 1984). The dental student in this interaction needed to initiate three repair turns with the patient in order to produce a collaborated account of the patient's medication information.

Conclusion

Conversation in institutional settings for the most part is work related. In the dental profession this work consists of soliciting information from the patient so that the doctor can make a determination of the patient's dental and medical condition. It is essential that the dentist not only has accurate information about the patient's present dental complaint, but also of any present or past medical problems. An unknown allergy to penicillin or an overlooked heart problem have been known to be fatal to dental patients. Appropriate and effective dental treatment, therefore, depends upon the diagnosis of a dental problem and is contingent on the patient's medical condition.

The interactions cited in this paper demonstrated how, through the organization of locally managed turns-at-talk, the dental students and patients of this study collaboratively accomplished information requesting and giving in regard to specific topics. A review of the information of the patient's Medical/Dental Health History Questionnaire was accomplished through simple adjacency pair structure of questions and answers. As typical in institutional talk the dental student, or the professional participant, asked the first part question and the patient responded with the second part answer. This structure, which was common in all of the twenty-one interviews, proved to be successful in accomplishing solicitation and presentation

of information by the participants. At times a trouble spot occured regarding certain information. The students and patients then used conversational methods such as repair organization and worked through a series of turns-at-talk to repair the trouble. After an agreement was reached, the students often re-confirmed the information. Some type of confirmation through use of a third turn, a single lexical response token, a repeat or a partial repeat of the patient's utterances was found to be used in all of the twenty-one interviews of this study. An analysis of the interactions, utilizing the theoretical concepts of conversation analysis, has shown that the task of the pre-treatment interview undertaken by these dental students and patients appeared to be accomplished. These students have learned how to solicit information from a patient, when that information is pursueable and when not to accept a "no" answer. Effective dental treatment is accomplished through a collaboratively produced account and understanding of the patient's dental problem and medical condition. This is accomplished through conversational exchanges. Conversational exchanges then are an important part of the dental treatment, not just a means to convince the patient to have treatment done, or to establish dental team/patient rapport and trust.

The conclusions made in this study of dentist/patient conversational interactions are modest examples of the information that can be obtained from an analysis of the organizational structure

of 'talk'. There are still many domains of doctor/patient conversation to explore which can help to facilitate dental treatment. This study only looked at one part of the pre-treatment phase and how effective treatment is contigent on the collaborative account of pertinent information regarding the patient's dental/medical health history and problems. The pre-treatment examination, treatment and post-treatment phases perhaps are also accomplished through conversational exchanges. A further analysis of the data compiled for this study or the talk generated during other phases of dental treatment could be interesting and informative.

Appendix A

Marquette University
Agreement of Consent for Research Subjects

This project examines how doctors and patients communicate.

I authorize Marquette University to record on video tape my likeness and voice while I,

a) experience a dental examination by students of

or

b) perform a dental examination on a clinic patient at Marquette University School of Dentistry.

I understand that this video tape will be used for the purpose of teaching communication skills to students, and for faculty or graduate student research projects which involve communication or social interaction.

I understand that my confidentiality will be protected by not showing my full face or using my name during the video taping.

I understand that participation in this project will provide information that will enhance doctor's and patient' abilities to communicate with each other.

I understand that I will experience no physical or psychological discomfort while participating in this project, other than the normal discomfort of a dental examination.

I understand that my participation in this project is voluntary and that I may terminate it at any time without penalty.

I understand that by signing this form I have not made any agreement, either verbal or written, which would waive or release Marquette University or its representative from liability for negligence which may arise in the conduct of any investigation which uses this video tape.

I understand that in the event of physical injury resulting from biomedical or behavioral research procedures used during this project, medical treatment in the amount not to exceed $500.00 is available for such physical injury, but no monetary compensation is available for wages lost because of such physical injury.

I understand that the Marquette University faculty and/or graduate student indicated below will answer any questions I may have regarding this project and that I can contact them in person or by telephone at #288-6500.

_____ _____

Subject, Patient or Guardian Date

_____ _____

Subject, Student Witness

_____

Principal Investigator

Appendix B

12/1990
-1-

MARQUETTE UNIVERSITY SCHOOL OF DENTISTRY
MEDICAL/DENTAL HEALTH HISTORY QUESTIONNAIRE

PATIENT NAME: _____

BIRTH DATE: _____/_____/_____

The following information about your health is very important. It allows us to provide you with the safest possible treatment. Incorrect information may be dangerous to your health. Please answer all questions completely and accurately. If you do not understand a question or are unsure of the answer or wish to discuss it with the dentist, please inform the student dentist. The information on this Health History Questionnaire will be viewed by appropriate Dental School personnel only and will be considered confidential information

MEDICAL HISTORY

DATE: _____/_____/_____

1 Are you in good health? Yes No Don't Know

2 (When was your last physical examination? _____/_____/_____
(What was the result? _____

3 Are you presently being treated by a physician? Yes No

If Yes, give reasons _____

4 List medications you are taking (prescription and non-prescription, including oral contraceptives) _____

_____

_____

5 Are you allergic to or have you had bad reactions to medication or anything else? Please list. _____

_____

_____

Have you ever had or do you presently have any of the following?
(Circle Yes of No)

6	Arthritis	Yes	No
7	Diabetes	Yes	No
8	Thyroid Problem	Yes	No
9	Asthma	Yes	No
10	Tuberculosis	Yes	No
11	Shortness of Breath	Yes	No
12	A Need for Extra Pillows When You Sleep	Yes	No
13	Heart Problems	Yes	No
14	Rheumatic Fever	Yes	No
15	Heart Murmur	Yes	No
16	Heart Valve Problems	Yes	No
17	Pacemaker	Yes	No
18	High Blood Pressure	Yes	No
19	Pain in Chest on Exertion	Yes	No

Appendix B-2

20 Swollen Ankles	Yes	No
21 Abnormal Bleeding	Yes	No
22 Anemia	Yes	No
23 Fatigue Easily	Yes	No
24 Jaundice	Yes	No
25 Hepatitis	Yes	No
26 Liver Disease	Yes	No
27 Contact with AIDS Virus	Yes	No
28 Venereal Disease	Yes	No
29 Kidney Disease	Yes	No
30 Epilepsy	Yes	No
31 Fainting Spells	Yes	No
32 Nervous Disorder/Psychiatric Care	Yes	No
33 Non-Malignant Tumor	Yes	No
34 Malignant Tumor/Cancer	Yes	No
35 Radiation Therapy	Yes	No
36 Blood Transfusions	Yes	No
37 Artificial Joint	Yes	No
38 Contact Lenses	Yes	No
39 Do you smoke?	Yes	No
40 Do you have a history of narcotic use?	Yes	No
41 Do you have a history of alcohol abuse?	Yes	No
42 Have you ever been told you require premedication prior to dental treatment?	Yes	No
43 Are you pregnant?	Yes	No

44 List other medical conditions (including all surgical procedures).

#1 _____
#2 _____
#3 _____
#4 _____

45 (Have you been hospitalized in the past five years? ..... Yes No
(If Yes, for what condition? _____

DENTAL HISTORY

Who referred you? _____

What are your feelings about the condition of your teeth? _____

_____

What are your feelings about your past dental experiences? _____

_____

Chief complaint - Why are you currently seeking treatment? _____

_____

Appendix B-3

Dental Experience: Do you now, or have you had:

_____ toothaches
_____ bad breath
_____ pain in chewing
_____ canker sores
_____ bleeding gums
_____ gum surgery - If yes, where? _____
_____ wisdom tooth removal - If yes, when? _____
If yes, where? _____

_____ clenching/grinding day or night
_____ pain in or near ear
_____ other sore or painful areas in the mouth
_____ missing teeth

_____ orthodontics
_____ root canal work
_____ bridgework, or partial dentures
If yes, when? _____

List surgical procedures in sequence + date: _____

_____

Have you had regular dental check-ups? yes no Date of last check-up __/__/__

Dietary Profile: Do you eat or drink between meals? ..... Yes No

Does your diet include any of the following:

chewing gum - Yes No
candy bars - Yes No
candy - Yes No
soft drinks - Yes No

cookies/cakes/pastries - Yes No
sugar in coffee or tea - Yes No
breath mints/cough drops-Yes No

Oral Hygiene Status - How often do you brush? ___ Type of toothpaste? _____
Type of brush: hard/soft How often do you change brush?
Do you use dental floss? Yes No

What is your major dental concern? _____

_____

_____

Other Dental Problems? _____

_____

_____

_____

To the best of my knowledge, I have answered every question completely and accurately. I will inform my student dentist of any change in my health and/or medication.

Patient's Signature _____

Reviewed by (Faculty) _____

(Student) _____

Date _____

Recall Review #1

Patient Signature _____ Date _____

Student Signature _____ Date _____

Faculty Signature _____ Date _____

Recall Review #2

Patient Signature _____ Date _____

Student Signature _____ Date _____

Faculty Signature _____ Date _____

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