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A Qualitative Report of Patient Problems and Postoperative Instructions

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Abstract

Purpose—While surgery related stress may interfere with the patient's ability to concentrate on instructions, language difficulty or low health literacy may also impede appropriate doctor/patient communication. The purpose of this study is to understand from a sample of minority patients the types of problems encountered during healing and the level of information regarding elements of postoperative instructions they recalled receiving at an inner-city safety net hospital. We initiated a qualitative study to understand the care sequence process and provision of informed consent and postoperative instruction.

Methods—African American or Latino patients, 18 years of age or older, who had third molars removed under general anesthesia or received treatment for a mandibular fracture were recruited to participate in a focus group to discuss their treatment. Patients described their problem and any informed consent given about treatment risks and benefits and postoperative information they recalled.

Results—A total of 137 former patients were approached, 57 agreed to participate (42%) and 34 of those (60%) completed the interview. Subjects included 14 females and 20 males. Five categories of patient problems were reported: physical, eating, treatment-related, psychosocial, and other problems. People reported 5 categories of coping strategies: medication use, physical treatments, dietary solutions, rest, and clinical assistance. Twenty people recalled being given

informed consent, and 5 participants recalled no elements of informed consent. Overall, 14 participants recalled elements of postoperative instruction.

Conclusion—Gaps in patient understanding of postoperative care suggest room for improvement in postoperative instructions. Additional research is necessary to design and test high-quality postoperative instructions for surgical treatment and recovery in populations with limited health related literacy.

A growing number of Americans have difficulty understanding doctor's instructions, either because they are functionally illiterate or do not speak the language of their health care provider.^{1,2} While surgery related stress may detract from the patient's ability to concentrate on information, language difficulty or deficiencies in health literacy may also impede appropriate doctor/patient communication.³ It has been estimated that about 20% of American adults (up to 48 million) are functionally illiterate.³ These adults often do not understand health education materials, whether informed consent documents or postoperative instructions.⁴ These problems are particularly relevant if English is the patient's second language. A growing immigrant population and a crisis in recruiting minority individuals to health profession careers fuel the communication difficulties between doctors and patients.² Reading ability and comprehension of the spoken language, not intelligence or level of education, have been found to be related to understanding of and compliance with postoperative instruction.

The type and level of information that patients may require to make an informed decision in deciding specific treatment types is not well understood. Professional standards state that the health care provider must inform the patient about risks and benefits of each treatment. Nonetheless, the clinician struggles to succinctly and clearly present relevant information to a patient.⁷

Good communication is also critical in assisting patients to appropriately deal with postoperative management. Studies have shown that adequate postoperative education can improve patient satisfaction and reduce postsurgical morbidity.⁸ Malins⁵ pointed out that patients from ethnic minorities might need printed instructions in their native language and the services of an interpreter. Moreover, verbal or a combination of verbal and written instructions are preferred by most patients, particularly those with lower education.^{3,4,6} However, without written reinforcement the understanding and retention of verbal instructions over a lengthy period of recovery cannot be assured.

Alexander^{3,9} stated that it is time for dental professionals, particularly those in the surgical specialties, to pay more attention to the phrasing, jargon, and terminology used in their postoperative instruction forms, as well as in their office brochures, informed consent forms, and the like. The purpose of this study was to elicit information from a minority sample about the types of problems encountered following oral surgery, the coping strategies they used to manage the problems, and the level of information regarding postoperative instructions they recalled receiving at an inner-city safety net hospital.

Methods

We initiated a qualitative study to understand the care sequence process and provision of postoperative instruction. Qualitative research is defined as descriptive, inductive, or phenomenologic research used to observe events, ask questions with open-ended answers, and interpret subject's personal reactions to develop emergent speculations or hypotheses.^{10,11} Little is known about people's process of care during oral and maxillofacial surgery and subsequent healing phase. The study was approved by the Institutional Review

Boards at UCLA and Charles R. Drew University of Medicine and Science (Los Angeles, CA).

People who received either removal of third molars under general anesthesia or treatment for a mandibular fracture were recruited to participate in hour-long focus groups to discuss the treatment they received at King/Drew Medical Center. All participants signed 2 consent documents, one to participate in the focus groups and the second to allow video and audio taping of the focus group discussions. We recruited people 18 years of age or older who were either African American or Latino and had recently received treatment. Lunch was served during the consent process in order for participants to get to know the doctor facilitators and other participants. Once people had completed their lunch we asked if they were ready to begin and commenced taping of the interview. Interviews were conducted by the authors (K.A.A., E.B., R.L.). Another author who is bilingual (M.A.) conducted the initial recruitment, the informed consent process, and the videotaping.

Focus groups were organized by subject characteristics if sufficient numbers of subjects could be found (gender, race/ethnicity, and treatment type [third molar removal or fracture]). This enabled the interviewers to probe deeply during focus groups without concern over possible gender or ethnic differences. Comparisons of thematic differences by gender, treatment type, and race/ethnicity were made during the analysis.

Using an open-ended interview style, we asked people to first describe the problem for which they had sought care. Once everyone had related his or her story, we asked a series of questions regarding:

- Type of risk and benefit information presented by the doctor during the informed consent process
- Postoperative instructions and any information remembered
- Types of postoperative difficulties and their severity
- Coping strategies used for resolving problems encountered
- Success of the coping strategies

After completion of the interview, participants were thanked and given a \$25 honorarium. Transcripts were made from the audio tape. The videotape was used to clarify specific responses on the audio tape. We analyzed the recruitment rates of males and females for patients with fractures and third molars. Statistically, there were no overall gender differences in *agreement to participate*, but female fracture patients were marginally statistically less likely to participate ($P = .05$). In terms of group differences, fracture patients were more likely to agree to participate ($P = .003$). African American males with fracture were more likely to agree to participate (63.2%) at $P = .001$. Table 1 shows the characteristics of the subjects.

Results

Participant Reported Problems

Participants were first asked to describe the types of problems they encountered during the treatment and healing process. Our intent was not to determine specific proportions of people who reported each problem, which is not a qualitative aim, but rather to determine the range of problems with sufficient importance to people that they would recall a problem once treatment and healing had ended. We also asked them to consider what bothered them the most, as they relived their experience. Five categories of problems were reported:

physical problems, eating problems, treatment-related problems, psychosocial problems, and other problems.

Considering the physical problems category, the words “patient signs and symptoms” come first to mind. As noted in Table 2, the types of physical problems included pain, swelling, numbness, bleeding, limitations on opening, and other less frequently mentioned issues. Pain was the single largest symptom noted with 22 of the 34 individuals remarking on the level or intensity of the pain they experienced. All but 3 of the 12 third molar patients commented on the pain they experienced, while 17 of the 22 people who recovered from fractures remarked on pain. Indeed, so much of the early discussion dwelt on pain that 8 people commented when they had not had memorable pain. Chi-square results indicate no statistical difference between the number of third molar and fracture patients who commented about the pain they experienced. Because of the small number of problem reports, no other statistical tests were conducted.

Within the discussion about pain, people were also eager to discuss problems with their pain medication (pills or liquid), the duration and severity of the pain, and radiating of pain to the ears or throat. Generally, these reports discussed flaws in the medication dosing, either strength or type of pain medication. For example, a male who was treated for a fracture resulting from a gunshot wound commented, “I was only in pain when my medication wore off—once I was released. They gave me liquid Tylenol, I ran through that in about 2 days. When I came back to the dental clinic they gave me pills which was OK because I had rubber bands in my mouth—I could open my mouth enough where I could get the pills in.” The liquid pain medication, designed to be used for children, was prescribed for a week's worth of pain relief but was used up in 2 days.

When asked what the worst thing was about third-molar surgery, many participants reported pain and its juxtaposition with other problems. As one woman who had third molars removed said, “It took me like I said 2 weeks for me to recuperate. I could not eat. It was very hard for me to eat cause they took 4 at the same time. I was having severe... fevers and all so all they gave me was Motrin for me to take, but it was not effective. I guess ... I think that they know we are going to have to deal with pain, they should have given something else than Motrin ... 600. I came back like 2 or 3 times because the pain was worse and worse, and I had to call the doctor.” A man with a fracture resulting from a gunshot wound described how pain is related to daily physical functioning. “The pain only came when you eat or talk or when I opened my mouth. My jaw is not even, when I eat or talk, I can feel the difference because of the fact that I was shot on one side of my face.” People noted the frequency with which the mouth is used for common functions.

An African American man with a fracture demonstrated how even the presence of pain was insufficient to assure compliance with doctor regimens. “I have pain when they ask me to open my mouth. You can't open it too far because of the wires. And that lasts a long time. This happened April 7 and I still can't open my mouth too far. And I still be trying to eat and all, I have to push it in my mouth.” This man had gone for over 7 months with wires closing his jaws. Despite doctor instructions to return for wire removal, he had not returned to the clinic.

Eating problems were also common to both people who had fractures (13 patients made 22 comments) and third molar patients (12 patients made 17 comments). Types of eating difficulties included having a bad bite, a dull or stinging taste, and even, for fracture patients who went longer periods on liquid diets, of stomach problems once food was reintroduced.

One aspect that participants clearly described is how the disruption of eating influences social aspects of an individual's life. As one man with a fracture caused by a gunshot injury

reported when asked to compare having a broken bone in the face with a limb or another part of the body, “Oh no, not your face! You see, that's your vocal, that's your mouth—when its time to eat, its time to eat. You can't even eat pork chops, can't open your mouth to eat chicken. I missed Thanksgiving, Easter, and all the good holidays. I was stuffing food through this (missing) tooth.”

Treatment-related problems included irritating wires for 8 fracture patients whose jaws were wired shut, and sutures for a third molar patient. Two people complained of broken teeth, 4 fracture patients noted their jaws were now crooked, and 2 people who had fractures remarked on difficulties with swallowing. One man who had maxillomandibular fixation clearly described the difficulty people experience when faced with wires breaking: “I had to get the wire cutters and cut them. It was painful to lift your lip up. You were bleeding from your lip. You'd be bleeding from your lip and the wires be sticking.” A Latina whose fracture was treated also noted the problem of cuts associated with broken wires. Her loose wires resulted from tooth brushing. “When I brush my teeth, the brush moves the braces around and it makes me feel really uncomfortable ... One of the wires broke while I was brushing my teeth. Every time that I smile, the loose wire would scratch my lip and would sometimes make my lip bleed.”

Finally, people who had suffered from a fracture reported psychosocial problems. These problems reflected the uniqueness of the etiology of the injury and included nightmares, breathing problems, embarrassment, reliving the experience, and facial disfigurement. To give an example, a man who complained about his appearance with maxillomandibular fixation recounted that “My pride was killing me! Because the guy did this to me. It's more about pride and what everyone was saying. I would have killed him. I couldn't walk the streets because of what happened.” Another man whose fracture resulted from a gunshot injury asserted, “I had nightmares and cold sweats after I got shot. After I got shot, I became more conscious about my surroundings.” And he went on to discuss his worries about checking frequently that his door was locked.

Coping Modalities Used to Manage Healing Problems

Participants were asked to describe the modalities they used to cope with problems encountered during their healing from the surgery. This question was asked before a discussion about the postoperative instructions to not influence their memory of the instructions. Participants reported 5 categories of coping strategies: medication use, physical treatments, dietary solutions, rest, and clinical assistance. Table 3 shows 21 of the 34 subjects discussed medication use, including pain medication or drinking brandy by 12 of 16 third molar patients and 7 of 17 people who had fracture repair. Four participants reported antibiotic use as a coping strategy.

It is not clear whether instructions given on amount and frequency of pain medication use were well understood. One male with a fracture suggested he may have taken excessive amounts of medication, “Yeah, they gave me codeine; sometimes I did not know if I was walking or crawling.” Further, a Latina with a fracture noted that, “I even had a couple of drinks of brandy to help me release frustration, it really helps me”; raising a question of whether patients understood the risk of mixing alcohol with codeine.

Physical treatment incorporated many of the holistic or home remedies patients are often advised to use during surgical healing. Participants who had third molars removed reported use of ice packs and saltwater rinses. Warm packs were reported less frequently, by an individual who had a fracture and by people whose third molars were removed. As one woman told the group, “I would sleep with ice packs because it would be the only thing that would help me cope with the pain.” Other holistic remedies included massage, listening to

music, and the use of a large leaf to draw out the pain. Negative coping strategies were also reported. Personal removal of fixation wires were reported by 6 men, and 2 subjects who had third molars removed commented that they could not brush their teeth.

Dietary strategies, used by both groups, included both home remedies and supplements. Participants reported the use of a blender to liquefy food, that they ate through a straw, and that they resorted to drinking a soup diet. Nine individuals said simply that theirs was a soft diet. One person spoke positively of the diet supplement given by the clinic, and another spoke of the need for a “stomach liner” such as Pepto Bismol to alleviate repeated stomach upset from the liquid or soft diet.

Eight people, primarily third molar patients, reported the use of rest to survive the pain encountered during healing. Two commented that they had to take time off work to rest up during healing after third molar removal.

Only 4 people with fractures discussed the need for additional professional assistance, such as waxing to coat the wires during healing. One subject mentioned difficulty in finding a doctor over the weekend when he encountered substantial difficulties with pain.

Recall of Treatment Risks and Postoperative Instructions

Participants were then asked to report whether they recalled any information or instructions the doctor had given them before or after surgery. Two types of information were possible. The first, usually included as part of the informed consent, details the types of risks expected from general anesthesia and surgery. For third molar patients, a separate preparation clinic visit is routinely scheduled to discuss the planned treatment and risks and benefits of surgery. For fracture patients, because of the emergent nature of the condition, they are informed either in the Emergency Room or in the in-patient ward of the possible risk and benefits associated with a closed reduction procedure with maxillomandibular fixation for a period of 3 or 4 weeks or an open fixation procedure which requires an incision on the face to place a rigid bone plate.

A total of 20 people recalled being given treatment risk information, and 5 participants stated firmly that they had not been informed. Considering these comments were made by people with jaw fractures, the patient may have been not fully aware at the time of admission to the hospital. With respect to treatment risk, people recalled discussion on anesthesia, nerve damage, opening to the nasal passage, pain and soreness, and limitations on opening. For some, the informed consent was informative and reassuring and adequately prepared the patient for the experience to come. For example, a male who had third molars removed stated, “I remember them telling me some things about the nasal sinus passage, the nerves that were close to the bottom teeth. The doctor did a good job of telling me pre-surgery about what could happen. He told me I could have some tingling and numbness, some soreness and some teeth shifting when the pressure was moved. Pretty much everything I am saying he told me. I did feel comfortable; he did not rush me or anything like that. He took time to show me the x-ray.” On the other hand, 5 subjects recalled no informed consent process. A man with a fracture said “when I got here they sent me straight down to the emergency room and the doctors came. They told me my jaw was broken and he just got on moving it and moving it and I'm like, ‘Hold it man that hurts!’ Then they did not explain anything. They said, ‘Give him a bed.’ They didn't explain anything until after the surgery.”

It was also clear from some statements that communication between the health professionals and the patient did not always reflect a well-calibrated assessment of risk. For example, one woman remembered that the informed consent included the risk of death from general

anesthesia and the woman and her brother were so scared that the brother made her sign her son over to him before he would permit her to have her wisdom teeth extracted.

Postoperative Instructions

It is routine at King/Drew Medical Center to provide postoperative instructions to all patients before leaving the clinic or hospital. However, all participants did not recall having received comprehensive postoperative instructions. Nine participants definitely recalled being given verbal instructions. A patient with maxillomandibular fixation commented, "They gave me some Boost and stuff like that and they told me that I had to be on a liquid diet. A lot of juices and things like that. I am not going to be able to eat meat and stuff like that. They told me, 'Don't try to take the wires off yourself. Just deal with it!' But I was hardheaded and tried to take them out, 'cause it was getting on my nerves!"

Overall, 14 participants recalled elements that represent postoperative instructions. The instructions included changing gauze regularly, not spitting or smoking, when to call the doctor or go to the emergency room, and medical management instruction for a patient who was a diabetic (Table 4).

Six participants stated that they received insufficient information. For example, a male with a fracture stated, "I was given nothing. No paperwork that would say how I was supposed to eat, all they gave me was Boost."

Discussion

This study represents a qualitative study to understand, from a disadvantaged minority patient's perspective, how the process of surgery took place at a county hospital. Clearly, given gaps in patient understanding of postoperative care, there is substantial room for improvement in postoperative instructions.

Why did we select third molars as a comparison group for a study of patient preferences for surgery or non-surgery for orofacial injury? We did so because we realized that there would be common aspects: the use of general anesthesia and its related problems, pain, and the expected interruption to eating abilities. These aspects were confirmed in the similarity of the patients' descriptions of the physical problems encountered. The psychosocial impacts that patient experience associated with treatment for a traumatic event such as a fractured jaw emphasized the differences between the elective third molar patient and the non-elective fracture patient. It offered an excellent comparison of subjects with respect to decision-making. Third molar patients have time and choice, aspects that non-elective patients do not have. They have the choice to decide whether or not to have surgery after hearing about the possible risks of treatment. They have time to weigh the risks and benefits of surgery, a perfect model for informed decision-making. The communication misunderstandings, as exemplified by the woman who reported her brother made her sign her son to him in case of her death during third molar removal, showed that even with ample time to listen and the support of a close relative during the informed consent process, communication is not assured.

This analysis began with the recruitment process. We analyzed the characteristics of the subjects for multiple reasons. First, it is well documented in the literature that it is difficult to recruit minority individuals to participate in research studies.^{12,13} All of the subjects were minority individuals, as befits King Drew Medical Center's catchment area. The high proportion of people who did not elect to come to a 2-hour time commitment, despite a free lunch and a \$25 honorarium, confirms those difficulties. Further, all people who agreed to participate were confirmed for the time and place of the meeting, and taxi or bus fare was

offered to any who needed it. Despite these efforts, it was difficult to successfully recruit patients. All subjects were recruited by a bilingual Latina staff member in the Department of Oral and Maxillofacial Surgery. She was a familiar figure, not a hospital or county administrator, and not a doctor, suggesting that she was not apt to intimidate former patients. Even so, neither Latinos nor females appeared more likely to respond to her request to participate. Indeed, no African American females with fractures agreed to participate. In general, it appears that men with fractures are more willing to participate than females, because 2 of the 10 females with fractures ultimately participated. Because of possible worries about reporting of domestic violence, future research involving females with orofacial injuries might be better conducted away from the medical center at a safe, non-threatening location to encourage participation. Additionally, vulnerable women might respond better to women of their own culture.

We also worried that only subjects who had good or successful experiences with their surgery would be willing to return to tell us about their encounters. This was certainly not the case. A review of the literature shows overall complication rates for mandibular fractures ranging from 6% to 32%.¹⁴ Judging from the high number of people who reported complications such as nerve damage, crooked jaws, broken wires, or insufficient pain control, either sampling variability or a selection effect may be the source of the higher complication rates in this sample than have been reported in the literature. Indeed, with the inclusion of patients whose fracture resulted from gunshot injury rather than a fall or motor vehicle accident, this sample may represent a higher proportion of serious cases.

Nonetheless, very interesting information came out of the focus group interviews for which the following clinical insights are presented. The problems reported by these individuals confirm those reported by Conrad et al¹⁵ of third molar patients that 63.5% of patients reported their worst pain as severe (score 5 to 7, 7 being severe). Patients also reported substantial interference in oral function; chewing, 85%; mouth opening, 78.5%; and speaking, 37.5%. Increasingly high amounts of surgery are now performed in the ambulatory setting, yet the delivery of postoperative instructions remains, in some respects, an afterthought in the total patient care process. Judging from the consistent reports of pain and insufficient pain control, it appears that patients may need better postoperative instruction regarding ways to appropriately deal with pain following oral surgery. The design of postoperative instructions for minority patient populations should include a clear link between the patient's immediate concerns and the clinician's goals for a successful recovery process. For example, if pain reduction is the most salient problem to the patient at time of discharge when a postoperative instruction form is presented, the clinician must make it clear how following the postoperative instructions will, in fact, aid in the reduction of pain. The notion that good hygiene or eating a high protein diet is ultimately linked to decreases in severity or duration of pain may not be self evident to a patient with low health literacy.

Inadequate pain relief can prolong recovery and decrease patient satisfaction. Some of the problems with inadequate pharmacologic pain management reports dealt directly with county mandated formulary restrictions at King Drew Medical Center. Other problems associated with pain management, and many of them associated with other problems, such as wire removal, certainly related to the patient's memory and understanding of the postoperative instructions, which may have been impaired by after effects of general anesthesia. One way to insure that postoperative instructions get used in the way they were intended is to provide a copy to a caregiver who may be available upon discharge. Then, not only are verbal instructions shared, but the written instructions are available when the patient is home and in a better state to review them. Another method of evaluating the influence that postoperative instructions have on recovery is to have the patient bring with

them the instructions and any left over medications such as antibiotics or pain medication to their follow-up clinic visit. This provides the clinician with tangible evidence that instructions were provided as well as an opportunity to go over each instruction and address any questions or concerns.

Third molar patients reported a fair knowledge of appropriate coping strategies, including use of antibiotics, ice packs, over the counter and prescribed pain medication, not smoking, use of soft diet, salt water rinses, return visits to the clinic, sleeping, and oral hygiene. Problem responses were also reported, including self-removal of sutures. Fracture patients described fewer instructions and coping strategies: massage, use of antibiotics and pain medication, use of a soft diet, use of wire wax, sleeping, and discouragement from self-removal of maxillomandibular fixation wires. It was apparent that not all instructions were clear, were remembered, or were sufficient to resolve patient's problems. We conclude that additional research on diverse populations with low health literacy is needed to design and test high quality postoperative instructions necessary for surgical treatment and recovery.

Acknowledgments

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References

1. Powers RD. Emergency department patient literacy and the readability of patient-directed materials. *Ann Emerg Med.* 1988; 17:124. [PubMed: 3337429]
2. Jackson RH, Davis TC, Bairnsfather LE, et al. Patient reading ability: An overlooked problem in health care. *South Med J.* 1991; 84:1172. [PubMed: 1925713]
3. Alexander RE. Patient understanding of postsurgical instruction forms. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 1999; 87:153. [PubMed: 10052368]
4. Culbertson VL, Arthur TG, Rhodes PJ, et al. Consumer preferences for verbal and written medication information. *Drug Intel Clin Pharm.* 1988; 22:390.
5. Malins AF. Do they do as they are instructed? A review of out-patient anesthesia. *Anaesthesia.* 1978; 33:832. [PubMed: 717737]
6. Blinder D, Rotenberg L, Peleg M, et al. Patient compliance to instructions after oral surgical procedures. *Int J Oral Maxillofac Surg.* 2001; 30:216. [PubMed: 11420904]
7. Schouten BC, Eijkman MA, Hoogstraten J. Dentists' and patients' communicative behaviour and their satisfaction with the dental encounter. *Community Dent Health.* 2003; 20:11. [PubMed: 12688598]
8. Devine EC, Cook TD. Clinical and cost-saving effects of psychoeducational interventions with surgical patients: A meta-analysis. *Res Nurs Health.* 1986; 9:89. [PubMed: 3636955]
9. Alexander RE. Readability of published dental educational materials. *J Am Dent Assoc.* 2000; 131:937. [PubMed: 10916332]
10. Miles, MB.; Huberman, AM. *Qualitative Data Analysis: An Expanded Sourcebook.* Thousand Oaks, CA: Sage Publications; 1994.
11. Atchison KA. Understanding and utilizing qualitative research. *J Dent Educ.* 1996; 60:716. [PubMed: 8708146]
12. Corbie-Smith G, Thomas SB, Williams MV, et al. Attitudes and beliefs of African Americans toward participation in medical research. *J Gen Intern Med.* 1999; 14:537. [PubMed: 10491242]
13. Shavers VL, Lynch CF, Burmeister LF. Factors that influence African-Americans' willingness to participate in medical research studies. *Cancer.* 2001; 91(suppl 1):233. [PubMed: 11148585]
14. Ellis E III. Treatment of mandibular angle fractures using two noncompression miniplates. *J Oral Maxillofac Surg.* 1994; 52:1032. [PubMed: 8089787]
15. Conrad SM, Blakey GH, Shugars DA, et al. Patients' perception of recovery after third molar surgery. *J Oral Maxillofac Surg.* 1999; 57:1288. [PubMed: 10555792]

Table 1

Subject Characteristics for Focus Group

Ethnicity	Gender	Treatment Group	No. of Patients Eligible	No. of Patients who Agreed to Participate	No. of Focus Group Participants
African American	Male	Fracture	38	24	15
		Third molar	22	4	3
Latino	Male	Fracture	2	2	1
		Third molar	19	7	1
African American	Female	Fracture	4	0	0
		Third molar	19	10	6
Latino	Female	Fracture	6	3	2
		Third molar	27	7	6
Total			136	57 (42%)	34 (60%)

Atchison et al. Patient Problems and Postoperative Instructions. J Oral Maxillofac Surg 2005.

Table 2

Number of Comments about Physical Problems

Physical Problems	Fracture	Third Molar	Male	Female	Total
Pain	22	56	31	47	78
Swelling	4	8	9	3	12
Numbness	17	8	20	5	25
Bleeding	1	13	9	5	14
Limitations on opening	3	11	8	6	14
Disoriented	0	5	0	5	5
Soreness	0	4	4	0	4
Headache	1	2	2	1	3
Teeth grinding	2	0	1	1	2
Bad taste	0	2	0	2	2
Can't brush teeth	2	0	2	0	2
General	8	9	13	4	17
Total	60	118	99	79	178

Atchison et al. Patient Problems and Postoperative Instructions. J Oral Maxillofac Surg 2005.

Table 3

Patient-Reported Coping Strategies

Coping Mechanism	Fracture	Third Molar	Male	Female	Total
Medication	8	13	11	10	21
Pain pills	7	12	9	10	19
Antibiotics	2	2	2	2	4
Drink brandy	1	0	0	1	1
Physical treatment	6	13	8	11	19
Ice pack	0	11	3	8	11
Warm pack	1	3	1	3	4
Rinse with salt water	0	7	3	4	7
Didn't brush teeth	0	2	1	1	2
Dietary solution	8	9	9	8	17
Drink soups	1	4	1	4	5
Blender	3	0	2	1	3
Soft diet	4	5	5	4	9
Eat through straw	2	1	2	1	3
Rest	1	7	1	7	8
Clinical assistance	4	0	3	1	4
Friends motivation	1	0	1	0	1
Total	49	89	62	76	138

Atchison et al. Patient Problems and Postoperative Instructions. J Oral Maxillofac Surg 2005.

Table 4

Subject Recall of Postoperative Instructions

Patient Recalled Instructions	Fracture	Third Molar	Male	Female	Total
Postop instructions	7	7	9	5	14
Allergic to codeine	0	1	0	1	1
Change gauze regularly	0	1	0	1	1
No spitting	0	1	0	1	1
No smoking	0	1	0	1	1
Rinse with salt water	0	1	0	1	1
Go to emergency room	0	1	0	1	1
Diabetic	0	1	0	1	1
No dietician available	2	0	1	1	2
Call dentist	2	2	1	3	4
Given diet plan	2	0	2	0	2
General	5	0	3	2	5
Total	18	16	16	18	34

Atchison et al. Patient Problems and Postoperative Instructions. J Oral Maxillofac Surg 2005.