

THE EFFECTIVENESS OF A STRUCTURED  
PREOPERATIVE TEACHING PROGRAM  
FOR THE ADULT SURGICAL PATIENT

by

Joanne Roberta Ricci

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Department of Nursing

The University of British Columbia  
Vancouver, Canada

Date October 5, 1977

## ABSTRACT

This experimental study was designed to determine the effectiveness of a structured preoperative teaching programme for the adult surgical patient as measured by several indicators. The major questions asked in this study were: What are the effects of a structured preoperative teaching programme upon the adult surgical patient's length of hospital stay, postoperative complications, number of analgesics administered postoperatively, recall of knowledge explained preoperatively, and satisfaction with his preoperative teaching. This study was conducted over a four month period, on one surgical ward of a large general hospital. A total of forty subjects met the criteria of the study, and their informed consent was obtained.

The first twenty subjects were assigned to the control group, and received the unstructured, pre-existing preoperative instruction from the staff nurses. The second twenty subjects made up the experimental group and received structured preoperative teaching in small groups conducted by the investigator, with the aid of a slide-taped programme developed specifically for the study. Prior to discharge, each subject was given two questionnaires to complete, and data were collected by means of a patient profile sheet.

The two groups of subjects were found to be similar when compared on selected characteristics. The alternative hypotheses of the study were analyzed by means of a t-test, and chi square test at the .05 level of significance. The results revealed no significant effect of the structured preoperative teaching programme upon the adult surgical patient's length of hospital stay, postoperative complications, number of analgesics administered

postoperatively, or the degree of satisfaction attained from the preoperative teaching he received. However, statistical significance was found for the patient's ability to recall knowledge explained preoperatively.

Implications of this study and recommendations for future research were also suggested.

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## CHAPTER I

### INTRODUCTION

The hospitalized surgical patient is subjected to a variety of interactions which vary in quantity as well as quality. Many events that occur during the preoperative and postoperative period require explanation. Often, the methods used are inadequate and the explanation surrounding these events remain vague. This incomplete preparation may alter a patient's hospital course.

An important function of the professional nurse in the health care system of today, is to teach patients and their families in the promotion of health and prevention of illness. This teaching function is especially important in the area of preoperative preparation. It has been well documented that teaching a patient about routine procedures and exercises prior to surgery promotes an uneventful convalescence.

The major focus of preoperative teaching has consisted of deep breathing, coughing, and bed exercises. Dripps and Waters and Bendixen have indicated that these exercises are a means of preventing pulmonary and circulatory complications postoperatively.<sup>1,2</sup> If, however, both the patient and his family are to be thoroughly prepared for surgery, instruction regarding basic procedures from admission through discharge should be incorporated into the

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<sup>1</sup>Robert D. Dripps and Ralph M. Waters, "Nursing Care of Surgical Patients I - The 'Stir-up,'" American Journal of Nursing, XL1, No.5 (May, 1941). p.534.

<sup>2</sup>H.H. Bendixen et al., Respiratory Care, (Saint Louis: The C.V. Mosby Co., 1965), p.89.

preoperative teaching programme. This type of programme requires structure and planning, with input from many members of the health team.

A suitable approach to preoperative teaching is the technique of group instruction. Although preoperative teaching is usually done on an individual basis, group instruction has proven effective in many areas of nursing. Redman promotes group instruction for its economy of time and the beneficial effect of group interaction.<sup>3</sup> This study attempts to evaluate the effectiveness of a structured preoperative teaching programme for the adult surgical patient.

## THE PROBLEM

### Statement of the Problem

Is a structured preoperative teaching programme for the adult surgical patient effective in meeting his informational and safety needs as measured by several indicators?

The specific questions investigated were:

1. What are the effects of a structured preoperative teaching programme upon the adult surgical patient's length of hospital stay?
2. What are the effects of a structured preoperative teaching programme upon the adult surgical patient's postoperative complications?
3. What are the effects of a structured preoperative teaching programme upon the adult surgical patient's requirement for analgesics postoperatively?
4. What are the effects of a structured preoperative teaching

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<sup>3</sup>Barbara Klug Redman, The Process of Patient Teaching in Nursing, (Saint Louis: The C.V. Mosby Co., 1972,)p. 20, 93.

programme upon the adult surgical patient's recall of knowledge explained preoperatively?

5. What are the effects of a structured preoperative teaching programme upon the adult surgical patient's satisfaction with his preoperative teaching regime?

### Significance of the problem

Inadequate explanation of presurgical routines has been a common complaint of the preoperative patient and his family. Redman indicated that the teaching of patients has been performed on an irregular basis.<sup>4</sup> In order to resolve the inconsistency and inadequacy of preoperative teaching several factors must be investigated. The amount and type of information required, the most suitable time for teaching and the method of instruction must be determined. This would seem necessary to satisfactorily meet the basic informational and safety needs of the general surgical patient. The findings of this study may promote implementation of a structured preoperative teaching programme for groups of surgical patients, in the institution where the study is being conducted.

Several authors have reported the importance of preoperative preparation for the surgical patient to enhance an uneventful convalescence. Studies by Healy, Lindeman and Van Aernam demonstrated that planned instruction in deep breathing, coughing, and bed exercises were effective in reducing the length of hospital stay for the surgical patient.<sup>5,6</sup>

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<sup>4</sup>Redman, The Process of Patient Teaching in Nursing, p.14

<sup>5</sup>Kathryn M. Healy, "Does Preoperative Instruction Make a Difference?" American Journal of Nursing. LXVIII, No. 1 (January, 1968), p. 62.

<sup>6</sup>Carol A. Lindeman and Betty Van Aernam, "Nursing Intervention With the Presurgical Patient - The Effects of Structure and Unstructured Preoperative Teaching," Nursing Research, XX, No.4 (July-August, 1971), p. 331.

This positive effect is a necessity, not only in terms of the increasing cost of health care but also making more readily available the much needed surgical bed.

Although there are many advances in anaesthesiology and techniques of surgery, postoperative pulmonary and circulatory complications still occur. Bendixen et al stated that accurate instruction given preoperatively is helpful in preventing atelectasis and pneumonia, thus reducing postoperative complications and, in turn, length of stay in hospital.<sup>7</sup> Effective prevention of postoperative complications requires a thorough understanding by the patient of the pathogenesis of these complications so that they can cooperate to the best of their ability.

Physiological and psychological preparation are equally important components of preoperative teaching. The nurse can assist the patient in expressing his feelings and concerns regarding hospitalization and surgery. Instruction and encouragement related to the patient's emotions will improve his morale and affect his physical well-being in the postoperative period. Janis found patients who did some anticipatory worry about an impending danger increased their level of tolerance for subsequent stress. In reference to the surgical patient, he suggested that this moderate amount of preoperative worry will result in optimum postoperative emotional adjustment.<sup>8</sup>

Nurses are now recognizing that teaching is an integral part of their professional role. The rapid development of modern medical technologies has

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<sup>7</sup>Bendixen et al., Respiratory Care, (Saint Louis: The C.V.Mosby Co., 1965), p.89.

<sup>8</sup>Irving L. Janis, Psychological Stress. (New York: Wiley & Sons, 1958), pp.376-388.

increased the teaching function of the nurse. Consumer groups and patient advocates are demanding fulfillment of their basic human right to be informed of the health care they receive. Lack of time, heavy workload, and understaffing have been identified by Pohl as the major problems in patient teaching.<sup>9</sup>

The use of group instruction in preparing patients for surgery may resolve many of the obstacles to effective patient teaching. With group instruction, the nurse not only saves time, but can ensure adequate instruction for several individuals. Bains and Mezzanotte both found group instruction to be as effective as individual instruction for teaching the preoperative patient.<sup>10, 11</sup> The findings of this study may promote implementation of a structured preoperative teaching programme for groups of surgical patients, in the institution where the study is being conducted.

#### SPECIFICS OF THE STUDY

##### Hypothesis

The hypotheses of this study were:

1. A structured preoperative teaching programme will significantly reduce the length of hospital stay for the adult surgical patient.
2. A structured preoperative teaching programme will significantly

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<sup>9</sup>Margaret L. Pohl, "Teaching Activities of the Nursing Practitioner," Nursing Research, XIV, No. 1. (Winter, 1965), p.11.

<sup>10</sup>Chinama Baines, "An Experimental Study to Compare the Effects of Individual and Group Preoperative Instruction" (unpublished Master's Thesis University of British Columbia, 1971), p.75.

<sup>11</sup>Elizabeth Jane Mezzanotte, "Group Instruction in Preparation for Surgery," American Journal of Nursing LXX, No. 1 (January 1970). p.91.

reduce postoperative complications.

3. A structured preoperative teaching programme will significantly decrease the amount of analgesics administered postoperatively.

4. A structured preoperative teaching programme will significantly increase the patient's recall of knowledge explained preoperatively.

5. A structured preoperative teaching programme will significantly increase the patient's satisfaction of his preoperative teaching regime.

### Variables

The independent variable in the study was:

1. the structured preoperative teaching programme

The dependent variables in the study were:

1. length of hospital stay
2. postoperative complications
3. amount of analgesics administered postoperatively
4. recall of knowledge explained preoperatively
5. satisfaction of preoperative teaching

The number of extraneous factors, that influence the dependent variables in the study are recognized by the investigator. The sample population was limited to subjects with specific characteristics, thus reducing the number of organismic variables present among the subjects. To promote homogeneity among the experimental and control groups the subjects were also matched on diagnosis, type of surgery, age within ten years and sex.

### Definition of Terms

Structured preoperative teaching programme... To the subjects in the experimental group a preoperative letter was circulated and a slide-tape teaching session was presented in hospital, the evening prior to surgery.

The preoperative teaching session consisted of a twelve minute slide-tape programme followed by a discussion and return demonstration of the exercises taught. The teaching sessions lasted from twenty to thirty minutes, and were conducted by the investigator.

The adult surgical patient: the patient, over nineteen years of age admitted to one surgical ward of a selected general hospital.

The length of hospital stay: the number of days the patient was hospitalized. In all circumstances the day prior to surgery was counted as the first day and the day of discharge was counted as the last day.

Postoperative complication: a complicating condition pneumonia, atelectasis or thrombophlebitis diagnosed and stated in the patient's chart by the attending surgeon.

Analgesics: any pain-relieving medication as ordered by the surgeon, specifically: Demerol, morphine and Darvon plain.

Recall of Knowledge: the subject's ability to answer questions correctly (from a questionnaire) pertaining to the preoperative teaching from either the structured preoperative teaching programme or the nurse's own teaching.

Satisfaction of preoperative teaching: the degree of satisfaction the patient attained through the preoperative teaching he received as measured by a questionnaire.

### Assumptions

This study was based on the following assumptions:

1. Patients and their significant others have a basic human right to be adequately informed about the health care they receive.
2. Patient teaching is an integral part of professional nursing



practice.

3. Preoperative teaching conducted with small groups is a suitable method of assuring adequate instruction to most surgical patients.

### Limitations of the Study

The study was subject to the following limitations:

1. The study was limited to one particular surgical ward; therefore the results may not be applicable to the general population.

2. The study was limited to those subjects who could read and write the English language.

3. The study was limited to meeting the basic needs of the general surgical patient, and not specialized surgical interventions.

4. The study was limited to forty patients who met the selected criteria of the study, therefore the results may not be applicable to surgical patients at large.

5. The results of the study may not have been solely the outcome of the structured preoperative teaching programme as it was impossible to control for all the intervening variables affecting the subjects under study.

### Summary

Chapter I has discussed the problems and questions directly related to preparing patients for surgery. It has also specified the hypotheses and variables under study. The definition of terms, assumptions and limitations were outlined.

## OVERVIEW

The problem of supplying effective preoperative preparation to surgical patients, including necessary information and safety teaching

was investigated. The study was designed to include a control group to evaluate ongoing practice as compared to an experimental group of similar surgical patients who received a structured preoperative teaching programme.

The structure of preoperative teaching programme was evaluated as to its effectiveness in reducing postoperative problems and increasing patient information needs and satisfaction.

## CHAPTER II

A review of the literature indicated that there was adequate literature related to the topic of structured preoperative teaching. A few of the directly related sources have been selected to provide a basis for this study.

The literature review is presented under the following headings: preoperative teaching in general, group instruction, and teaching as an integral function of the professional nurse.

### PREOPERATIVE TEACHING IN GENERAL

Interest in preoperative teaching as a means of reducing postoperative respiratory and circulatory complications was discussed in nursing literature as early as 1941. Dripps and Waters focused their attention on developing a programme for the management of the surgical patient during the postoperative period. The programme consisted of three basic procedures, turning, coughing and deep breathing. The underlying physiological principles were: turning improved overall circulation and permitted the pulmonary tissue to function properly. Deep breathing inflated collapsed air sacs and aided in guarding against the lodgement of bacterial or infectious agents. Coughing cleared away secretions and helped prevent atelectasis.<sup>1</sup>

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<sup>1</sup>Robert D. Dripps and Ralph M. Waters, "Nursing Care of Surgical Patients I - The 'Stir-up'", American Journal of Nursing XXI, No. 5 (May 1941) p.530-534.

Specific instructions in these exercises were also identified by Bendixen et al as a means of reducing pulmonary and circulatory complications during the postoperative period.<sup>2</sup> This interest in the care of the surgical patient appeared to motivate others to begin research in the area of preparing patients for surgery.

The events before and after surgery are often very threatening to the uninformed patient. The patient's expectations of hospitalization and an impending surgery may be magnified or minimized to unrealistic levels. The psychological impact of surgery was reported in Janis' study. His research on the work of worry, resulted in the theory that a moderate degree of worry before exposure to a stressful event, produced an individual less likely to develop emotional disturbances during and after the actual stress exposure. This moderate degree of worry in the preoperative patient stimulated him to inquire as to ways in which he can cooperate in order to meet the impending dangers of surgery. Janis saw realistic explanations, teaching, and preparatory guidance as ways of reducing fear of the unknown in presurgical patients.<sup>3</sup>

Hospitalization and surgery can be considered to be stressful occurrences. Therefore, preparation of patients for events of surgery should not be done in a haphazard manner.

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<sup>2</sup>H. H. Bendixen and Others, Respiratory Care. (Saint Louis: The C.V. Mosby Co., 1965). p. 85.

<sup>3</sup>Irving L. Janis, Psychological Stress. (New York: Wiley & Sons, 1958), pp. 374-376.

Aasterud in her paper, "Explanation to the Patient," has identified three components that must be considered when explaining procedures and routines to the hospitalized patient. They consist of the type, extent, and timing of the preparatory information.<sup>4</sup>

The type of information and extent or detail in which events are explained is very important. Aasterud points out that nurses and other health professionals are often so familiar with hospital procedures that they may only give a minimum amount of explanation to the patient.<sup>5</sup> Input from all members of the health team identifying content areas and amount of detail required for adequate explanation must be determined. The patient should also be given an opportunity to express his feelings and understanding towards the impending events. Organization of this content into an appropriate teaching approach would be likely to eliminate the possible hit and miss method with everyone teaching what they feel is appropriate.

Several factors must be considered in deciding the appropriate time for teaching patients about the procedures and routines to which they will be exposed. Aasterud states that there are no specific guidelines as to when explanation should be given,<sup>6</sup> but if a patient is to undergo a major event involving changes in living patterns the individual may require a period of time to adapt and work through his feeling.

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<sup>4</sup>Margaret Aasterud, "Explanation to the Patient," Nursing Forum, Vol. III, No. 4, 1963. pp. 36-44.

<sup>5</sup>Ibid., p. 39.

<sup>6</sup>Ibid., p. 40.

In the case of the surgical patient, the amount of time available between admission and the actual surgery is often minimal. Other factors to be considered in selecting a time for teaching are, the normal activities of the ward, the patient's previous exposure to hospital and anxiety level. It therefore seems most appropriate to teach the patient the evening prior to surgery. The early evening may also allow the patient's significant other to attend the teaching session, therefore allowing them time to adapt to the situation and increasing the understanding of the patient's major support system. Bird stated "The patient's welfare often depends on the cooperation of his relatives, and if they are confused, the patient may suffer."<sup>7</sup>

Johnson used laboratory and clinical settings to study the effects of structuring patients' reactions to stressful events. In the laboratory experiment, forty-eight paid subjects were exposed to ischemic pain produced by applying a blood pressure cuff to the upper arm and pumping it up to 250 mm of mercury. Half of the subjects were told about the procedure and what sensations to expect and feel, whereas the remainder of the subjects were informed only of the procedure. Results from this portion of the study indicated that those subjects who were given a description of the sensation reported less stress than those who received only a description of the procedure. In the clinical experiment, ninety-nine patients undergoing gastrointestinal examinations were studied. Again, the subjects heard either a description of the sensation or a description of the procedure, or no preparatory information. Reduction of distress was measured by the amount

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<sup>7</sup>Brian Bird, "Psychological Aspects of Preoperative and Postoperative Care," American Journal of Nursing, LV, No. 6 (June, 1955), p.686.

of diazepam needed to achieve sedation. Subjects hearing a description of sensations or procedures were found to require approximately six milligrams less diazepam to achieve sedation, as compared to the group who received no information. The results indicated that information regarding accurate expectations and description of the expected procedures and sensation of a threatening event reduces distress and tension.<sup>8</sup>

Similarly, an experimental study to determine the effectiveness of preoperative instruction in reducing postoperative pain was conducted by Egbert.<sup>9</sup> The findings revealed that those subjects who received instruction and reassurance in regards to postoperative pain required fewer narcotics. Whereas, those subjects receiving no preparatory instruction required more narcotics. Thus, it would seem that preparatory information and instruction can have a positive impact on patient management.

The effectiveness of preoperative instruction upon postoperative behaviour was investigated by Healy. In this experimental study, over three hundred patients slated for elective surgery were followed from admission to discharge. Each subject in the experimental group received individual explanation about procedures expected and instruction and demonstration of deep breathing, coughing, turning and bed exercises. The study showed that the experimental group had fewer complications, shorter time period on

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<sup>8</sup>Jean E. Johnson, "Effects of Structuring Patient's Expectations on their Reactions to Threatening Events", Nursing Research, XXI, No. 6 (November-December 1972), pp. 499-503.

<sup>9</sup>L. Egbert and Others, "Reduction of Postoperative Pain by Encouragement and Instruction of Patients," New England Journal of Medicine, CCLXX, No. 16, (April 16, 1964), pp.825-827.

analgesics, and earlier discharge, as compared to the control group who did not receive explicit instructions. It was also reported that patients and staff expressed satisfaction from the experimental portion of the preoperative programme.<sup>10</sup>

Lindeman and Van Aernam conducted a study which compared structured preoperative teaching with unstructured preoperative teaching for surgical patients. Those patients over fifteen years old admitted, under non-emergency conditions, scheduled for a general anaesthetic and surgery other than eye, ear, nose and throat, were admitted to the study. The unstructured preoperative teaching consisted of the nurse teaching when and how much she felt was necessary. The structured approach included a lesson plan and a sound-on-slide programme explaining how to do "stir-up exercises" and why they were necessary. The focus of the structured teaching was on deep breathing and coughing exercises measured by ventilatory function tests. Results indicated that the experimental group performed better than the control group on the ventilatory function tests, and hence in their ability to deep breathe and cough postoperatively. Statistical evidence was also available in accepting the structured preoperative teaching programme as having an effect on reducing the length of hospital stay. However, there was no significant difference between the two groups on the number of analgesics required during the first seventy-two hours postoperatively.<sup>11</sup>

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<sup>10</sup>Katherine M. Healy, "Does Preoperative Instruction Make a Difference?", American Journal of Nursing, LXXIII, No. 1, (January 1968), pp.62-67.

<sup>11</sup>Carol Lindeman and Betty Van Aernam, "Nursing Intervention with the Presurgical Patient - The Effects of Structures and Unstructured Preoperative Teaching", Nursing Research, XX, No. 4 (July-August 1971), pp.319-332.



## GROUP INSTRUCTION

Group instruction has been and is presently used in patient teaching. Some of the areas in which this teaching approach has proven successful are prenatal and postpartum care, infant and child care, cardiac care and the management of diabetic patients.

Redman and Pohl have implied that small group instruction and discussion would help patients having similar problems and goals, identify with each other's fears and concerns.<sup>12, 13</sup> Through this identification they would gain moral support and encouragement. Misconceptions of hospitalization and surgical interventions would hopefully be voiced and corrected through the use of group discussion. Group instruction is also an economical way of teaching several individuals at one time. It would be advantageous in the area of preoperative teaching, as the staff nurse on a busy surgical ward is already short of adequate time to carry out the immediate details of bedside care.

Although most preoperative teaching has been done on a one to one basis, recent literature promotes group instruction. Mezzanote used the group method of instruction to explain pre and postoperative routines, and to teach the techniques of deep breathing, coughing, and leg exercises. She instructed twenty-four patients having elective abdominal surgery in groups of four. Postoperative interviews found all patients stating that the group instruction had been beneficial. Twenty participants also expressed they did and would prefer group instruction over individual instruction. Since this

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<sup>12</sup>Barbara Klug Redman, The Process of Patient Teaching in Nursing, p.95

<sup>13</sup>Margaret L. Pohl, The Teaching Function of the Nursing Practitioner. (2nd ed., Debuque, Iowa: Wm. C. Brown Co. Publishers 1973) p.74.

study did not have a control group for individual instruction, nor was the sample size very large, definite conclusions could not be made.<sup>14</sup> However, positive responses from the patients were noted, thus lending added support for group preoperative instruction.

Baines conducted an experimental study which compared the effectiveness of individual and group preoperative instruction.<sup>15</sup> The focus was on the performance of deep breathing, coughing and bed exercises, in altering the incidence of postoperative complications and length of hospital stay for sixty patients having abdominal surgery. There were thirty subjects comprised each of the experimental and control group. All subjects received a practice guide consisting of information on how to do the exercises. A booklet with photographs of selected exercises and corresponding instructions was also used in the preoperative teaching. The findings indicated that preoperative group instruction was as effective as individual instruction on the postoperative performance of deep breathing, coughing, and bed exercises. The length of stay in hospital was shorter, and the number of complications were fewer for patients receiving group instruction. However, the differences in these variables between the control and experimental groups were not statistically significant.

The small group method of instruction was also employed by Schmitt and Wooldridge to prepare patients psychologically for surgery. The sessions were informal and patients were asked to share their feelings and concerns about the impending surgery. Deep breathing, coughing, and leg exercises were taught to promote recovery. The majority of these subjects were also

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<sup>14</sup>Elizabeth Jane Mezzanotte, "Group Instruction in Preparation for Surgery," American Journal of Nursing LXX, No. 1 (January 1970), pp.89-91.

<sup>15</sup>Chinima Baines, "An Experimental Study to Compare the Effectiveness of Individual and Group Preoperative Instruction" (unpublished Master's Thesis, University of British Columbia, 1974), p.2.

interviewed the morning of surgery to further vent feelings and receive encouragement. Twenty-five subjects in a control group received routine preparation on a one to one basis with the hospital staff nurse.

Results from both verbal indicators and physiologic indicators of blood pressure, pulse, temperature, incidence of nausea, vomiting, and urinary retention, found that the nursing intervention reduced tension and anxiety in the experimental subjects. During the postoperative period, the experimental group required less medication, experienced less operative urinary retention, resumed oral intake sooner and were discharged earlier as compared with the control group.<sup>16</sup> Added psychological preparation given to patients the evening prior to surgery appeared to have beneficial effects. It decreased the patient's anxiety, increased participation for their own care, and in turn lead to a more rapid and uneventful recovery.

#### TEACHING AS AN INTEGRAL FUNCTION OF THE PROFESSIONAL NURSE

The question as to which health professional should be responsible for preoperative teaching has been very controversial. Bird feels that all health professionals have some responsibility in preparing the patient for surgery. Yet, no one person really claims it. He sees the responsibility shared between the surgeon and the nurse.<sup>17</sup> Janis implies that a psychiatrist is the only health professional suitable for the task and he believes that nurses and doctors are inappropriately trained to provide psychological support.<sup>18</sup>

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<sup>16</sup>Florence E. Schmitt and Powhatan J. Wooldridge, "Psychological Preparation of Surgical Patients," Nursing Research, XXII, No.2 (March-April 1973),pp.108-115.

<sup>17</sup>Brian Bird. "Psychological Aspects of Preoperative and Postoperative Care." American Journal of Nursing. Vol. 55, No. 6,(June 1955),p.685.

<sup>18</sup>Irving L. Janis, Psychological Stress,(New York: Wiley & Sons,1958),p.374.

Johnson and Martin suggest that the preparing of patients for surgery is well within the nurse's role, and in addition, that it may be a unique function of the nurse as an independent practitioner.<sup>19</sup>

Pohl also sees the teaching function of the nurse as a unique contribution to the promotion of health and prevention of illness.<sup>20</sup> The nurse does this by helping patients understand the importance of health principles and assuming responsibility for applying this knowledge to themselves and their families.

Lyons' study on preoperative teaching indicated that the staff nurse on the surgical unit should have a higher priority towards this aspect of patient care. Lyons states that nurses have the most contact with patients and their families, give most of the postoperative care, and are in the best position to judge the patient's learning needs.<sup>21</sup> The educational preparation of nurses enables them to assess the patient and identify expressed and unexpressed learning needs. The nurse is then able to plan the appropriate content, select a method of teaching and utilize various teaching aids for instruction of patients. The final step in teaching patients is evaluating whether or not needs have been met and in turn whether learning has occurred. Redman feels the above steps are necessary in the teaching-learning process.<sup>22</sup>

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<sup>19</sup>Miriam Johnson and Harry E. Martin. "A Sociological Analysis of the Nurse Role," American Journal of Nursing, LVIII (March 1958), pp.373-377.

<sup>20</sup>Margaret L. Pohl, The Teaching Function of the Nursing Practitioner, p.64.

<sup>21</sup>Mary Lou Lyons, "What Priority Do You Give Preoperative Teaching?: Nursing 77, VII, No. 1 (January 1977), p.11.

<sup>22</sup>Barbara Klug Redman, The Process of Patient Teaching in Nursing, pp. 76-77.

Monterio suggests that for teaching groups of patients, the structured approach is often more effective. The formal structured approach to teaching is more than a spontaneous response to a patient's statement or question.<sup>23</sup> Therefore according to the above researchers, all aspects of teaching and learning must be carefully planned well in advance to the presentation of specific material. Redman states that the lecture method of teaching is an effective way of giving information, demonstrating skills, and influencing attitudes. Yet, with this approach to teaching, the learner does not always have the opportunity to ask questions, nor can the teacher ensure that they really understand the material. Discussion following the lecture and return demonstration of skills are a means of strengthening learner outcome.<sup>24</sup>

Pohl has identified several advantages for teaching in small groups. When the learners have common problems and needs, the flow of questions, concerns, and sharing of experiences makes for a productive discussion. She feels the optimum size for group discussion would be from six to ten people. It should also be noted again that much time is saved by the nurse teaching several patients at one time.<sup>25</sup>

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<sup>23</sup>Lois Monterio "Notes on Patient Teaching - A Neglected Area" Nursing Forum, VIII, No. 1, 1964. p.28.

<sup>24</sup>Redman, The Process of Patient Teaching in Nursing, p. 92.

<sup>25</sup>Margaret Pohl, The Teaching Function of the Nursing Practitioner, pp.74-75.

General interest towards the content being presented can be increased through identification with the topic, discussion, and use of audio-visual aids. Lindeman and Van Aernam used a sound-on-slide programme in their study of the effectiveness of preoperative teaching.<sup>26</sup> Burke used slides to promote patient learning in the management of diabetes.<sup>27</sup> Audio-visual aids alone will not make learning more effective or teaching more successful.<sup>27, 28</sup> They can, however, be used to organize material and content in the event that it can be presented to a group of individuals in the same manner. Mursell, from his work on the psychological principles of successful teaching, advocates the use of audio-visual material. He feels the presentation becomes more than mere talking, it is actually hearing and seeing.<sup>29</sup> Thus, audio-visual aids are a supplement to verbal explanation. They introduce variety into teaching and in turn stimulate interest in the learners.

The teaching approach used by the investigator in this study included preliminary written material in a preoperative letter, group teaching, utilizing audio-visual aids, and group discussion. Patient participation was included in return demonstration of the exercises taught. Evaluation of the teaching programme was also conducted. This multi-dimensional approach provides more opportunity for learners to grasp the necessary informational and safety content in the pre and postoperative periods.

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<sup>26</sup>Carol Lindeman and Betty Van Aernam, "Nursing Interventions with the Presurgical Patient." p.323.

<sup>27</sup>Matilda Burke, "The Effectiveness of the Modified Diabetic Teaching Tool in Group Instruction" (unpublished Master's Thesis, University of British Columbia, 1974), p.7.

<sup>28</sup>James L. Mursell. Successful Teaching - Its Psychological Principles, 2nd ed. (New York, Toronto, London: McGraw-Hill Book Company, Inc., 1954), p.96.

<sup>29</sup>Ibid., 96-97.

## SUMMARY

The literature review revealed that preoperative teaching for the surgical patient has positive effects postoperatively. It is evident from the preceding studies that most authors have included specific instructions on deep breathing, coughing, and bed exercises in their preoperative teaching programmes. These exercises, when practiced during the postoperative period have been proven as a means of reducing circulatory and pulmonary complications. It has, however, been implied that other content areas, such as preoperative procedures, expectations on the day of surgery and during the postoperative period must be included in a preoperative teaching programme. These content areas seem essential in order to meet the patient's information and safety needs, as well as to promote an uneventful convalescence.

Several studies were concerned with the effectiveness of a structured preoperative teaching programme. Group teaching has also been advocated as a suitable method for teaching preoperative patients, and the professional nurse has been identified in an integral role in this teaching.

### CHAPTER III

#### METHODOLOGY

The purpose of this study was to determine if a structured preoperative teaching programme for the adult surgical patient is an effective means of meeting his informational and safety needs as measured by several indicators. Forty subjects were included in the study. The first twenty subjects made up the control group, and received the unstructured preoperative instruction in varying amounts on an individual basis from the staff nurses. The second twenty subjects made up the experimental group. They received structured preoperative teaching in small groups, conducted by the investigator. The effectiveness of the structured preoperative teaching programme was determined by comparing the two groups on the length of hospital stay, development of postoperative complications, analgesics administered postoperatively, ability to recall information explained preoperatively, and satisfaction with the preoperative teaching they received.

#### THE SETTING

The study was conducted on one surgical ward of a sixteen hundred bed general hospital. Permission to conduct the study in the hospital was obtained from the hospital's research and administrative committees. Data collection on the ward occurred between January 16, 1977 and April 1, 1977. Both male and female adult patients were admitted to this ward for general surgery.

The nursing staff on the selected surgical ward had recently implemented a twelve hour shift rotation. The subjects were therefore under



the care of the same nurses for several days. The surgeons, as well as the physiotherapist, were also permanent members of the health team on this ward. Selection of subjects from the same surgical ward was deemed necessary to ensure that all subjects would receive the same type of pre and post surgical care, according to the type of surgery performed.

#### CRITERIA FOR SUBJECT SELECTION

Subjects meeting the following criteria, were selected for this study:

1. over nineteen years of age
2. admitted under non-emergency situations
3. admitted for general abdominal surgery
4. scheduled for a general anaesthetic
5. free of an ongoing secondary illness including pulmonary and cardiac conditions, diabetes
6. no known drug or alcohol dependency
7. consenting to participate in the research study

To determine that there was homogeneity between the control and experimental groups on selected variables, the two groups of subjects were compared on selected characteristics. The control and experimental groups were compared to:

1. diagnosis
2. type of surgery
3. age within ten years
4. sex

Those subjects fitting the criteria and consenting to participate admitted from January 16, 1977 through February 5, 1977 served as the control

group. Those subjects admitted to the same ward, from February 15, 1977 through April 1, 1977, served as the experimental group. Written consent was obtained from all subjects. The consent forms for both the control and experimental subjects are contained in Appendix A of this study.

#### STAFF ORIENTATION

The nursing staff was not aware of the investigator's purpose on the ward during the data collection period for the control group. However, the head nurse and assistant head nurses were thoroughly informed of the study. The reason for not informing the staff about the study at this time was to eliminate possible bias that may have occurred in the pre and postoperative care given to the control subjects.

Prior to data collection for the experimental group, the staff nurses and physiotherapists were informed of the procedure and purpose of this study. The nurses on the ward also viewed the slide-tape teaching programme. The nurses were asked not to do the initial preoperative teaching on the selected experimental subjects. The investigator informed them when their patients were included in the study. The nurses were instructed to answer questions if asked by the subjects and reinforce exercises as they deemed necessary during the postoperative period.

#### DEVELOPMENT OF THE TOOLS

##### The Structured Preoperative Teaching Programme

The content for the structured preoperative teaching programme was initially developed by the investigator from clinical involvement while working with surgical patients in this hospital, as well as from a review of pertinent literature. From this selected content the script for the slide-tape

teaching programme was written. The script was written in concise and simple language. It was then presented to the hospital administrative committee to gain approval. Minor changes were made in response to recommendations from the committee. Slides were then taken in the hospital setting to correspond with the script. The script was then transferred to a synchronized audio-tape. The completed slide-tape programme was presented to a larger committee of experts for critical review, revision and final approval. This committee included the original administrative committee, plus representatives from physiotherapy, anaesthesiology, surgery, education services and nursing. All members gave approval for use of the slide-tape programme in this study. A copy of the script and slides are included in Appendix B.

#### The Evaluation of Preoperative Knowledge

The purpose of this tool was to determine the subjects' ability to recall knowledge explained preoperatively. All subjects in the study were asked to answer twenty-five true and false questions which pertained to the information taught in the structured preoperative teaching programme, or the nurses' own teaching. This questionnaire was developed by the investigator and approved by the administrative committee before implementing it into the study.

The administrative committee participated in revision of the questionnaire, giving direction which helped affirm its validity. The members of this committee were a selected group of experts on preoperative teaching practice.

Reliability testing of the questionnaire was not feasible for this study for the following reasons. The questionnaire was administered to all subjects at a selected time prior to discharge. This could not be repeated.

Time and criteria restraints prevented collection of two large populations for comparative reliability analysis. Appendix C contains a copy of the questionnaire.

#### Satisfaction of Preoperative Teaching

This tool was necessary to evaluate the subject's degree of satisfaction of the preoperative teaching he received. The questionnaire was developed by the investigator and approved by the hospital administrative committee. Results from this tool would determine whether or not the structured preoperative teaching programme increased the subject's satisfaction in regards to the way in which his informational needs were met.

Face and content validity were challenged by submitting the questionnaire to the experts on the administrative committee. Reliability was not sought. A copy of this questionnaire is included in Appendix D.

#### The Preoperative Letter

This letter was previously developed, validated, and administratively approved by the hospital where the study was conducted. It was decided by the hospital administrative committee that the letter be mailed to each subject's home prior to hospital admission. However, the mailing system failed, and the subjects in the experimental group who were to receive the letter at their home, instead, received it on admission to the ward. A copy of this letter is included in Appendix E.

#### Patient Profile Sheet

This tool was devised to obtain the data relevant to the selected variables under study. The data was extracted from the subject's chart. The profile sheet is in Appendix F.

## Implementation of the Study

The subjects in the control group were approached by the investigator two to three days before discharge. Verbal explanation of the study was given and if the subject agreed to participate, written consent was obtained. The subject was then asked to complete the true-false questionnaire and the satisfaction questionnaire. Results of the true-false questionnaire were immediately given to the subject, with explanation, if a question had been incorrectly answered.

Those subjects fitting the criteria and admitted during the specified time, made up the sample for the experimental group. On admission to the ward, these patients were seen by the investigator and invited to attend a preoperative teaching session that evening. The subjects and family, if present, between 1845 and 1900 hours were escorted by the investigator to a clinic room, where the teaching session was conducted. The twelve minute slide-tape programme was shown followed by a discussion. The investigator answered any questions and cleared up misconceptions when voiced. Deep breathing, coughing, and leg exercises were also practiced at this time. In all, the sessions did not exceed thirty-five minutes.

The size of the group varied from two to seven subjects. As the group size was not too large, a Singer Caramate audio-visual unit was used to view the slide-tape teaching programme, and the seats were arranged in a semicircle around it.

During the postoperative period, the staff nurses answered any questions that arose and encouraged the subjects to continue with the deep breathing, coughing, and leg exercises. Prior to discharge, the subjects were asked to complete the questionnaires. Results were immediately given along with explanation of incorrect items. As this was the final contact with the investigator, the subjects were thanked for participating in the study.

## DATA ANALYSIS

The control and experimental subjects were compared on selected variables. Data in relation to hypotheses I through IV are concerned with quantitative variables, and therefore subjected to t-test analysis. The .05 level of significance was accepted as statistically significant.

Hypothesis V corresponds to the subject's satisfaction of his preoperative teaching, and is considered qualitative data. This qualitative data was analyzed using a Chi-Squared 2 x 2 distribution and Fisher's Exact Test.

## SUMMARY

This chapter has presented the methodology of the study. A description was given of the setting, criteria for sample selection, staff orientation, development of the tools and procedure for data collection. A brief discussion of the method of data analysis was also included.

## CHAPTER IV

### ANALYSIS OF THE DATA

A total of forty-four subjects were initially included in this study. Twenty-two agreed to participate in the control group. Two were later eliminated, as both were found to have a history of alcoholism. Twenty-two also agreed to participate in the experimental group. One of these two subjects was transferred to another ward following surgery, and one contracted an infection and was placed on isolation.

The data were analyzed and presented in two sections. The first section is a comparison of demographic characteristics of the control and experimental subjects as obtained from the criteria and profile sheet. The second section contains analysis of the data in relation to the hypotheses of the study.

#### COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS ON SELECTED CHARACTERISTICS

##### AGE

A comparison of the control and experimental group by age within ten years is contained in Table I. The mean age for subjects in the control group was 52.1 years and the mean age for the subjects in the experimental groups was 51.6 years. In reference to Table I where the ages range from twenty to eighty, the control group and experimental group were homogeneous in relation to the characteristic of age.

TABLE I

A COMPARISON OF CONTROL AND EXPERIMENTAL  
SUBJECTS BY AGE

Age (Years)	Control Subjects	Experimental Subjects
20-31	2	3
31-40	2	2
41-50	3	2
51-60	7	4
61-70	5	7
41-80	1	2
TOTAL	20	20

### SEX

A comparison of the control and experimental group in relation to sex is contained in Table II. Although there were more males than females in both the control and experimental group, the groups were similar according to sex distribution.

TABLE II

A COMPARISON OF CONTROL AND EXPERIMENTAL  
SUBJECTS BY SEX

Sex	Control Subjects	Experimental Subjects
Male	12	14
Female	8	6
TOTAL	20	20



## DIAGNOSIS

Table III gives the comparative distribution of the control and experimental subjects according to their diagnosis on admission.

TABLE III

A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS'  
DIAGNOSIS ON ADMISSION

Diagnosis on Admission	Control Subjects	Experimental Subjects
aorto-iliac stenosis	2	2
renal artery stenosis	1	-
bowel obstruction	2	2
cholelithiasis	4	4
hernia	3	7
duodenal ulcer	4	-
appendicitis	2	-
abdominal aortic aneurysm	1	3
abdominal pain	1	2
Total	20	20

## TYPE OF SURGERY

Table IV gives the comparative distribution of the control and experimental subjects according to the type of surgery they had. The surgeries were categorized as to either abdominal surgery or lower-abdominal surgery. The abdominal surgeries included, resection repair of abdominal aortic aneurysm, bilateral aorto-femoral bypass, cholecystectomy, appendectomy, vagotomy and pyloroplasty, hemicolectomy, and abdominal-perineal resection. The lower abdominal surgeries included repair of inguinal or femoral hernias, and femoral bypass grafts. The groups were similar.

TABLE IV

A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS'  
TYPE OF SURGERY

Type of Surgery	Control Subjects	Experimental Subjects
Abdominal	16	13
Lower-Abdominal	4	7
	TOTAL 20	20

## ANALYSIS OF HYPOTHESES

The data obtained in relation to each hypothesis were subjected to statistical analysis in order to compare the results between the control group and experimental group. The dependent variables in Hypotheses I through IV were tested by means of a t-test at the .05 level of significance. The dependent variable in Hypothesis V was tested using the chi-square test of significance with a 2 x 2 contingency table and Fisher's Exact Test.

### Hypothesis I

The first hypothesis of the study was: structured preoperative teaching programme will significantly reduce the length of hospital stay for the adult surgical patient. The comparative distribution of the control and experimental subject's length of hospital stay is included in Table V. There was no significant difference in the average duration of hospital stay between the two groups. In the two diagnostic categories that contained enough patients for a meaningful comparison, there was no difference in stay for patients with cholelithiasis, but the trend was toward a shorter stay for the experimental group with hernia. Hypothesis I was rejected in this study..

TABLE V  
A COMPARISON OF CONTROL AND EXPERIMENTAL  
SUBJECTS' LENGTH OF HOSPITAL STAY

<u>Control</u>				<u>Experimental</u>			
	Subject Number	days	average		Subject Number	days	average
Aorto-iliac Stenosis	1 7	11 11	11		16 20	19 11	15
Renal Artery Stenosis	2	13					
Bowel Obstruction	3 12	9 12	10.5		7 15	9 22	15.5
Chole- lithiasis	4 9 19 20	11 8 14 8	10.3		3 5 6 17	9 10 9 12	10
Hernia	5 11 15	7 14 6	9		1 2 4 9 10 12 13	4 5 6 9 5 5 7	5.9
Duodenal Ulcer	6 8 14 17	9 10 30 7	14				
Appendi- citis	13 18	5 7	6				
Abdominal Aortic Aneurysm	10	12			8 11 14	13 11 10	11.3
Abdominal Pain	16	10			18 19	20 11	15.5

$\bar{x} = 10.7$   
SEM\* = 1.2

$\bar{x} = 10.3$   
SEM = 1.1

$t = 0.216$   
(not significant)  
 $p > .05$

\*Standard Error of the Mean

## Hypothesis II

The second hypothesis was: structured preoperative teaching will significantly reduce postoperative complications. Observation of the data revealed that none of the subjects in either the control or experimental groups developed a postoperative respiratory or circulatory complication (Table VI). Therefore this alternate hypothesis was rejected.

TABLE VI

A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS'  
DEVELOPMENT OF POSTOPERATIVE COMPLICATIONS

	Control Subjects n = 20	Experimental Subjects n = 20
Development of postoperative complications	0	0
TOTAL	0	0

### Hypothesis III

The third hypothesis was: structured preoperative teaching will significantly reduce the number of analgesics administered postoperatively. For ease of data analysis the analgesics were categorized as to the method of administration which was either intramuscular or oral. The intramuscular analgesics consisted of either meperidine hydrochloride (Demerol) or morphine sulfate (Morphine). The pharmacologic equivalent dose of 1 mg morphine is 7.5 mg meperidine, and the results for intramuscular analgesia are expressed in terms of equivalent meperidine dose. The total dose of analgesics administered was then categorized into the initial 24 hours postoperatively for each subject in each diagnostic category. The remaining intramuscular analgesics were totalled for each subject and divided by the number of days they were given, beyond the initial 24 hours, and for all cases was from 24 to 96 hours postoperatively.

A comparison of the control and experimental subjects' amount of intramuscular analgesics required postoperatively is contained in Tables VII and VIII. The t-test analysis revealed no overall significant difference between the control and experimental groups for the amount of analgesics administered postoperatively. Table IX, comparing the amount of oral analgesia administered postoperatively to control and experimental subjects, indicates no significant difference between the groups. The oral analgesia other than propoxyphene (Darvon Plain) administered was minimal, and was not included in the analysis.

Even in the two diagnostic categories with a large number of patients, cholelithiasis and hernia, no persistent trend existed in the total dose of analgesics administered to the control or experimental group. For example, although a slightly smaller total dose of oral analgesia was administered to

the experimental group with cholelithiasis, a slightly higher dose of parenteral analgesia was administered to these patients.

TABLE VII

A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS'  
TOTAL DOSE EQUIVALENT OF MEPERIDINE ADMINISTERED  
DURING THE FIRST 24 HOURS POSTOPERATIVELY

	<u>Control</u>			<u>Experimental</u>		
	Subject Number	milli- grams	Aver- age	Subject Number	milli- grams	Aver- age
Aorto-Iliac Stenosis	1 7	150 70	110	16 20	135 190	162.5
Renal Artery Stenosis	2	187.5				
Bowel Obstruction	3 12	200		7 15	137.5 67.5	102.5
Chole- lithiasis	4 9 19 20	175 675 250 200	325	3 5 6 17	600 600 300 600	525
Hernia	5 11 15	150 225 232.5	202.5	1 2 4 9 10 12 13	225 300 200 25 75 200 200	175
Duodenal Ulcer	6 8 14 17	375 525 200 150	312.5			
Appendi- citis	13 18	300 75	187.5			
Abdominal Aortic Aneurysm	10			8 11 14	112.5 135 127.5	125
Abdominal Pain	16	112.5		18 19	37.5 150	93.8

$\bar{N} = 18$   
 $\bar{x} = 236.2$   
SEM = 36.2

$N = 20$   
 $\bar{x} = 220.8$   
SEM = 40.1

$t = 0.282$   
NS  
 $p > .05$



TABLE VIII

A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS'  
TOTAL DOSE EQUIVALENT OF MEPERIDINE ADMINISTERED  
24-96 HOURS POSTOPERATIVELY

	<u>Control</u>			<u>Experimental</u>		
	Subject Number	milli- grams	Aver- age	Subject Number	milli- grams	Aver- age
Aorto-iliac Stenosis	1 7	75 490	282.5	16 20	390 125	257.5
Renal Artery Stenosis	2	325				
Bowel Obstruction	3 12			7 15	337 462	399.5
Chole- lithiasis	4 9 19 20	350 332.5 150 125	239.4	3 5 6 17	275 143 100 500	254.5
Hernia	5 11 15	112		1 2 4 9 10 12 13	75     180	36.4
Duodenal Ulcer	6 8 14 17	262 172.5 375	202.4			
Appendi- citis	13 18	75 75	75			
Abdominal Aortic Aneurysm	10			8 11 14	202.5 202.5	135
Abdominal Pain	16	112.5		18 19	220 450	335

N = 14  
 $\bar{x}$  = 216.5  
SEM = 36.4

N = 14  
 $\bar{x}$  = 261.5  
SEM = 38.1

t=0.855  
NS  
p > .05

TABLE IX  
A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS'  
DOSE OF ORAL ANALGESICS ADMINISTERED POSTOPERATIVELY

	<u>Control</u>			<u>Experimental</u>		
	Subject Number	milli- grams	Aver- age	Subject Number	milli- grams	Aver- age
Aroto-Iliac Stenosis	1 7	100		16 20	314	
Renal Artery Stenosis	2	200				
Bowel Obstruction	3 12	200		7 15		
Chole- lithiasis	4 9 19 20	450 450 330 200	358.3	3 5 6 17	150 200 120 166	159
Hernia	5 11 15			1 2 4 9 10 12 13	150	
Duodenal Ulcer	6 8 14 17	450				
Appendi- citis	13 18	100 300	200			
Abdominal Aortic Aneurysm	10	160		8 11 14	200 200	
Abdominal Pain	16	133		18 19	400	

N = 12  
 $\bar{x}$  = 256.0  
SEM = 39.2

N = 9  
 $\bar{x}$  = 211.1  
SEM = 29.9

t = 0.860  
NS  
p > .05

## Hypothesis IV

The fourth hypothesis was: a structured preoperative teaching programme will significantly increase the patient's recall of knowledge explained preoperatively. A subject's familiarity or previous exposure to hospital may have an effect on his recall of knowledge. Comparison of control and experimental subjects' previous hospitalization within the past seven years (Table X) reveals no significant difference between the groups. Table XI follows with a comparison of the control and experimental subjects' recall of knowledge explained preoperatively as measured from a true-false questionnaire. The t-test analysis revealed a significant difference beyond the .05 level of probability. Hypothesis IV was therefore accepted.

TABLE X

A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS'  
PREVIOUS HOSPITALIZATION WITHIN THE PAST SEVEN YEARS

	Control Subjects n = 20	Experimental Subjects n = 20
Hospitalization within the past 7 years.	12	11

TABLE XI

A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS' POINT SCORE  
FROM EXAMINATION OF RECALL OF KNOWLEDGE EXPLAINED PREOPERATIVELY

<u>Control</u>			<u>Experimental</u>	
	Subject Number	Score	Subject Number	Score
Aorto-Iliac Stenosis	1	21	16	21
	7	20	20	23
Renal Artery Stenosis	2	17		
Bowel Obstruction	3	21	7	24
	2	17	15	22
Chole- lithiasis	4	20	3	22
	9	17	5	23
	19	18	6	24
	20	19	17	20
Hernia	5	16	1	24
	11	17	2	22
	15	20	4	23
			9	22
			10	23
			12	21
Duodenal Ulcer	6	19	13	21
	8	19		
	14	22		
	17	20		
Appendicitis	13	18		
	18	22		
Abdominal Aortic Aneurysm	10	19	8	24
			11	22
			14	22
Abdominal Pain	16	22	18	21
			19	20

$N = 20$   
 $\bar{c} = 19.3$   
 $SEM = .4$

$N = 20$   
 $\bar{E} = 22.2$   
 $SEM = .3$

$t = 5.913$   
 significant  
 $p < .0005$

## Hypothesis V

The fifth hypothesis was: a structured preoperative teaching programme will significantly increase the patient's satisfaction of his preoperative teaching regime. Table XII contains the comparative distribution of control and experimental subject's degree of satisfaction with their preoperative teaching. Using a chi-squared distribution and Fisher's Exact test the results indicated no significant difference between the two groups. This final hypothesis is, therefore, rejected.

TABLE XII

A COMPARISON OF CONTROL AND EXPERIMENTAL SUBJECTS'  
SATISFACTION OF PREOPERATIVE TEACHING

	Control Subjects n=20	Experimental Subjects n=20
Dissatisfied with preoperative teaching	5	0
Satisfied with preoperative teaching	15	20
	NS	

## SUMMARY

The analysis of the data and results are presented in this chapter. A comparison of control and experimental subjects in relation to each hypothesis was presented. The findings revealed no significant difference between the control and experimental groups for length of hospital stay, postoperative complications, amount of analgesics administered postoperatively and satisfaction of preoperative teaching. The structured preoperative teaching programme did prove effective as a means of increasing the experimental subjects' recall of knowledge explained preoperatively.

## CHAPTER V

### SUMMARY, DISCUSSION OF FINDINGS; CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

#### SUMMARY

The purpose of this experimental study was to determine the effectiveness of a structured preoperative teaching programme upon the adult surgical patient as measured by several variables. The hypotheses tested in the study were:

1. A structured preoperative teaching programme will significantly decrease the surgical patient's length of hospital stay.
2. A structured preoperative teaching programme will significantly decrease postoperative complications.
3. A structured preoperative teaching programme will significantly decrease the amount of analgesics administered postoperatively.
4. A structured preoperative teaching programme will significantly increase the surgical patient's recall of knowledge explained preoperatively.
5. A structured preoperative teaching programme will significantly increase the patient's satisfaction of his preoperative teaching programme.

The study was conducted on one surgical ward of a large general hospital. It involved forty subjects, who met the criteria of the study. Twenty subjects

were then selected for the experimental group and received a structured preoperative teaching programme in small groups, conducted by the investigator. This programme consisted of a preoperative letter, a twelve minute slide-tape programme, followed by a discussion. All subjects completed two questionnaires prior to discharge.

A review of selected literature consistently emphasized the need for structured preoperative teaching. Specific preoperative instruction in deep breathing, coughing, and leg exercises were found to minimize postoperative circulatory and pulmonary complications, as well as promote a speedy recovery. Explanation of procedures and routines associated with surgery and venting of concerns were found to enlist the patient's cooperation, and increase their morale. Group instruction was deemed to be an adequate method for preoperative teaching. Teaching as an integral function of the professional nurse's role was also reviewed.

The two groups of subjects were compared on selected characteristics obtained from the patient profile sheet. A one tailed t-test was used to analyze hypotheses I through IV. A chi-square test of significance using a 2 x 2 distribution and Fisher's Exact test was applied to hypothesis V, which was concerned with the degree of satisfaction obtained from the preoperative teaching the subjects received.

#### DISCUSSION OF THE FINDINGS

The control and experimental subjects were similar when compared for the selected characteristics of the study. The average age was similar for both groups, as was the sex distribution. Classification of the type of surgery (abdominal and lower abdominal) contained similar numbers of patients for both groups, and minor differences existed in the number of patients from each group in each diagnostic category. These differences resulted



from the control group being weighted toward duodenal ulcer and appendicitis whereas the experimental group was weighted toward hernia repair, a procedure having slightly less surgical morbidity. Nevertheless, since hypotheses I to III were rejected, it is unlikely that the minor differences in the diagnostic category influenced the final results.

The independent t-test analysis of the data in relation to hypothesis I showed no significant difference in the length of hospital stay for the control and experimental groups. It is recognized by the investigator that a number of other factors may influence the dependent variable in this first hypothesis. Previous work has indicated that the type of incision influences the length of time spent in hospital. In the presented study, the subjects were compared on type of surgery which was then categorized as to abdominal or lower abdominal. Both groups were found to be similar; however, the type of incision was not specifically accounted for. In addition to type of surgery and age, both of which may influence the complication rate and thus the length of stay, other uncontrolled factors such as postoperative physiotherapy, oxygen administration, postoperative day of ambulation and food intake, duration of intravenous therapy, and physician subjectivity and influence may have affected the length of hospital stay. When the data is analyzed in terms of diagnostic categories, a trend appears toward a shorter hospital stay for the experimental group having hernia. This suggests that a structured preoperative teaching programme may provide beneficial effects in terms of length of hospital stay for some diagnostic categories. A larger number of patients in each group may have produced more significant changes.

Findings for hypothesis II revealed that none of the subjects in either group were found to develop a postoperative complicating condition of pneumonia, atelectasis, or thrombophlebitis. A statistical analysis was

therefore not applied. Several possible reasons for this finding include the fact that the physiotherapist for the ward where the study was conducted, does attempt to visit each patient during the first few postoperative days. On these visits she assists the patients with deep breathing and coughing exercises, as well as getting out of bed. Other reasons include those uncontrolled factors mentioned above in the discussion of length of hospital stay. Most important is that the complication rate for the surgeries performed is very small -- as little as 1%, necessitating a very large sample size (possibly several hundred patients in each group) to achieve statistical significance if differences did exist.

Analysis of the data in relation to hypothesis III showed no statistical difference between experimental and control groups for the amount of analgesics required postoperatively. No significant relationship was obtained between the experimental and control groups on the amount of oral analgesics (Darvon) administered postoperatively. The general nature of this structured preoperative teaching programme did not, therefore, affect the patient's analgesic requirement. The appreciation of and response to pain is very individualized. In addition to the physical trauma of surgery, emotional and psychologic factors influence the patient's need for postoperative analgesia. Although some mention of pain was included in the teaching programme, no detailed discussion was made of the numerous objective and subjective factors responsible for pain. It is possible that a programme having more emphasis on these factors may have influenced the analgesic requirement.

Although both groups were similar when compared on selected characteristics, the lack of overall significance may have been due to variables other than the teaching. A one to one matching of control subjects and experimental subjects as to their specific surgeries may have

found a difference in the results. This is suggested by the analysis of length of hospital stay in patients with hernia. The manner in which the analgesics were ordered by the surgeons may have also influenced the lack of overall difference in these findings. Some surgeons insist that the analgesics be given on a consistent four hourly basis, while others encourage the patients to request the analgesic when they feel it is necessary. The relatively small sample size may also have affected the results.

A significant difference in the two groups of subjects' recall of knowledge explained preoperatively was found. These findings resulted in acceptance of hypothesis IV. The investigator is aware that several other factors may have contributed to the significant difference in the experimental subjects' ability to recall preoperative knowledge. These subjects received a preoperative letter prior to the evening teaching session and discussion period. The teaching session included a slide-tape programme which covered basic information that was covered in the questionnaire. Each subject in the control group received teaching in varying amounts from their nurse. Such factors as patient educational status, vocation, paramedical interests, and physician counselling may have influenced the results in this section. Although these factors likely influenced the results in a random fashion, strict control of them would strengthen the conclusions based on the acceptance of hypothesis IV.

The final statistical analysis was a comparison of the experimental and control groups' degree of satisfaction obtained from the preoperative teaching they received, using a chi-square distribution and Fisher's Exact test. The findings indicated no significant difference between the two groups, and thus the hypothesis was rejected. It would appear that patients have no regard for the method through which they obtain their preoperative

education, possibly because the average patient has never appreciated that preoperative teaching is an integral part of his management. As the trend in patient education is towards a structured programme, it is likely that patients will recognize that a comprehensive approach to preoperative teaching enables them to share a more active and knowledgeable role in their own care. It was clear from the discussions concluding the teaching sessions, that the experimental subjects were very pleased to be involved in and informed of the events of their hospitalization and surgery. They gave positive feedback in regards to the presentation of the material. They felt they had a better understanding as to the rationale behind the procedures, and were better able to see the sequence of events.

### CONCLUSIONS

The conclusions drawn from the findings of this study are that the structured preoperative teaching programme presented here:

1. Did not significantly reduce the adult surgical patient's length of hospital stay.
2. May reduce the adult surgical patient's postoperative complications. In the presenting study, neither the control nor experimental subjects developed a postoperative complication of pneumonia, atelectasis or thrombophlebitis.
3. Was not effective in significantly reducing the amount of analgesics administered postoperatively.
4. Was effective in significantly increasing the patient's recall of knowledge explained preoperatively.
5. Was not effective in significantly increasing the patient's satisfaction of their preoperative regime.

## IMPLICATIONS

The implications of the presenting study include the following:

1. A structured preoperative teaching programme may contribute to a shorter hospital stay in selected groups of patients (e.g. those undergoing hernia repair). If this is borne out in subsequent studies of a similar nature, the monetary saving to patients and insurance plans resulting from the reduced cost of hospitalization may be well worth the investment in time, effort, and dollars of a structured preoperative teaching programme.
2. A structured preoperative teaching programme may contribute to an overall reduction in patient analgesic requirement during the postoperative period if such a programme is specifically designed to emphasize a discussion of postoperative pain.
3. The significant increase in the patient's ability to recall facts presented preoperatively implies effectiveness of the structured approach to teaching. The teaching of small groups of patients should, therefore, be done by a professional nurse who is competent in applying the principles of learning and teaching as well as those principles associated with group process, if teaching is to occur in groups.
4. Since a structured preoperative teaching programme is associated with improved recall of facts during the postoperative period, better patient understanding of

nursing and surgical procedures may be expected. This may result in better patient cooperation, improved patient-nurse interaction, and ultimately, improved patient care.

5. Since a structured preoperative teaching programme was found to be associated with improved recall of facts during the postoperative period, a similar programme designed for medical patients undergoing therapy (e.g. chemotherapy or radiation therapy for cancer, or exercise rehabilitation after myocardial infarction or cardiac surgery) may prove to be effective in improving patient understanding of his disease process and its management.

#### RECOMMENDATIONS

The following recommendations are suggested for further research:

1. An extension of the present study to determine its effectiveness in reducing the anxiety level of the adult surgical patient and their significant others.
2. A replication of the present study using a large sample is needed before the results can be generalized to surgical patients at large.
3. Future studies of a similar nature should attempt to control the variables mentioned in the discussion of each hypothesis (e.g. physician counselling and medication orders, patient educational status and paramedical interest, postoperative physiotherapy, etc.).

4. A study should be designed to determine whether a structured preoperative teaching programme has any effect upon the physician's or the surgical nurse's impression of a patient's understanding or cooperation during the postoperative period.

## BIBLIOGRAPHY



## A BOOKS

- Beland, Irene L. Clinical Nursing: Pathophysiological and Psychosocial Approaches. 2nd ed. London: The Macmillan Company, 1970.
- Bendixen, H.H.; Egbert, L.D.; Hedley-Whyte, J.; Laver, M.B.; and Pontoppidan, H. Respiratory Care. Saint Louis. The C.V. Mosby Co., 1965.
- Finney, D.J.; Bennet, B.M.; Hsu, P.; and Pearson, E.S. Tables for Testing Significance in a 2 x 2 Contingency Table. Cambridge: Cambridge University Press, 1963.
- Glass, Gene V., and Stanley Julian C. Statistical Methods in Education and Psychology. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970.
- Janis, Irving L. Psychological Stress psychoanalytic and behavioural studies of surgical patients. New York: John Wiley & Sons, Inc., 1958.
- Mursell, James L. Successful Teaching: Its Psychological Principles. 2nd ed. Toronto: McGraw-Hill Book Company, Inc., 1954.
- Pohl, Margaret L. The Teaching Function of the Nursing Practitioner. 2nd ed. Dubuque, Iowa: Wm. C. Brown Company Publishers, 1973.
- Redman, Barbara K. The Process of Patient Teaching in Nursing. Saint Louis: The C.V. Mosby Company, 1972.
- Smith, H.W. Strategies of Social Research: The Methodological Imagination. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1975.

## B ARTICLES

- Aasterud, Margaret. "Defenses Against Anxiety," Nursing Forum (Summer 1962), pp.35-59.
- Aasterud, Margaret. "Explanation to the Patient," Nursing Forum, II, No. 4, 1963, pp.36-44.
- Bird, Brian. "Psychological Aspects of Preoperative and Postoperative Care," American Journal of Nursing, LV, No. 6 (June, 1955), pp.685-687.
- Cashel Weiler, Sister M. "Postoperative Patients Evaluate Preoperative Instruction," American Journal of Nursing, LXVIII, No. 7 (July, 1968), pp.1465-1467.
- Dumas, R.G.; Anderson B.J.; and Leonard, R.C. "The Importance of Expressive Function in Preoperative Preparation," American Journal of Nursing, LXIII, No. 8 (August, 1963), pp.52-54.
- Dripps, Robert D., and Waters, R.M. "Nursing Care of Surgical Patients I. The 'Stir-up'," American Journal of Nursing, XLI, No. 5 (May, 1941) pp.530-534.
- Egbert, L.D., and Others. "Reduction of Postoperative Pain by Encouragement and Instruction of Patients," New England Journal of Medicine, CCLXX (April 16, 1964), pp.825-827.
- Hallburg, Jeanne C. "Teaching Patients Self-Care" Nursing Clinics of North America, V, No. 2 (June, 1970), pp.223-231.
- Healy, Katherine M. "Does Preoperative Instruction Make a Difference?" American Journal of Nursing, LXVIII No. (January, 1968), pp.62-67.
- Johnson, Jean E. "Psychosocial Factors in the Welfare of Surgical Patients," Nursing Research, XIX, No. 1 (January-February, 1970), pp.18-28.
- Johnson, Miriam and Martin Harry. "A Sociological Analysis of the Nurse Role," American Journal of Nursing, LVIII (March, 1958) pp.373-377.
- Lindeman, C.A. and Van Aernam, B. "Nursing Intervention with the Presurgical Patient - The Effects of Structured and Unstructured Preoperative Teaching," Nursing Research, XX (July-August, 1971), pp.319-332.
- Mezzanotte, Elizabeth J. "Group Instruction in Preparation for Surgery," American Journal of Nursing, LXX (January 1970), pp.89-91.
- Monteiro, Lois A. "Notes on Patient Teaching - A Neglected Area," Nursing Forum, III (Winter, 1964), pp.26-33.
- Pohl, Margaret L. "Teaching Activities of the Nursing Practitioner," Nursing Research, XIV, No. 1 (Winter, 1965), p.11.

## ARTICLES Continued

Redman, Barbara K. "Patient Education as a Function of Nursing Practice," Nursing Clinics of North America, VI, No. 4 (December, 1971), pp.573-580.

Schmitt, Florence E., and Wooldridge, Powhatan J. "Psychological Preparation of Surgical Patients," Nursing Research, XXII, No.2 (March-April, 1973), pp.108-115.

## C UNPUBLISHED WORKS

- Baines, Chinnama. "An Experimental Study to Compare the Effectiveness of Individual and Group Preoperative Instruction," Unpublished Master's Thesis, University of British Columbia, 1974.
- Burke, Matilda. "The Effectiveness of the Modified "Diabetic Teaching Tool" in Group Instruction, Unpublished Master's Thesis, University of British Columbia, 1974.

## APPENDICES

APPENDIX A

CONSENT FORMS

GROUP ONE - Experimental Subjects

GROUP TWO - Control Subjects

CONSENT FORM - GROUP ONE

I, the undersigned, agree to participate in this study and understand that:

1. the aim is to investigate the patient's knowledge about basic pre and postoperative procedures.
2. there will be two in-hospital contacts with the investigator.
  - (i) a slide-tape teaching programme prior to surgery
  - (ii) two questionnaires prior to discharge (maximum ten minutes).
3. there are no risks involved.
4. all information gathered will be confidential.
5. I am free to withdraw from the study at any time.

Date .....

Signature of Participant .....

Signature of Nurse .....

## CONSENT FORM - GROUP TWO

I, the undersigned, agree to participate in this study, and understand that:

1. the aim is to investigate the patient's knowledge about the basic pre and postoperative procedures.
2. there will be one in-hospital contact with the investigator.
  - (i) two questionnaires prior to discharge (maximum ten minutes).
3. there are no risks involved.
4. all information gathered will be confidential.
5. I am free to withdraw from the study at any time.

Date .....

Signature of participant .....

Signature of Nurse .....



APPENDIX B  
PREOPERATIVE TEACHING PROGRAMME  
Slides and Script

## PREPARING YOU FOR YOUR OPERATION



Welcome to Vancouver General Hospital. You are here to become familiar with the events that will occur before and after your operation. This preparative teaching programme will hopefully make your hospital stay more pleasant. Please save any questions until after the slides are over.



While in hospital you will meet many members of the health team. It takes many skills to look after one patient. Each member of the team is specialized in certain ways to help you meet your needs.



Now that you have already gone through the admitting procedure, it is time for you to learn about your pre-operative preparation. You must remember that not all the procedures mentioned are required for every patient.



It is also important that you abide by our regulations in regards to smoking. Please try NOT to smoke at all during your stay in the hospital.



As this is a teaching hospital, an intern or medical student may take your history on behalf of your surgeon. It is necessary that you co-operative and answer his or her questions. A history must be on your chart, as it is an essential source of information.



A urine sample is required from each patient. Please use the bedpan, or urinal, and set it aside for the nurse. The urine will then be sent to the laboratory to discover if there is anything abnormal which may affect the course of your surgery.



A sample of your blood will also be taken and sent to the laboratory. Like the urine specimen, it too will be analyzed for any abnormalities.



For most patients, a prep, or skin shave, is required, and will be done by a nurse or orderly. As skin hair is a possible source of infection, it must be removed. Do not be alarmed as the incision is not as large as the area that is shaved. After the shave, you will most likely either wash or bathe with an antiseptic soap to remove loose hairs, and cleanse the skin.



An enema or cleansing of the bowel is necessary for abdominal surgery, as well as several other types of surgery. The enema prevents a bowel movement immediately following surgery. The nurse on the ward will let you know if you need an enema.



The evening before your surgery an anesthetist (a doctor who is specialized in putting patients to sleep and making sure the area to be operated on is numb,) may visit you or review your chart to obtain the information he requires. If he visits, feel free to ask him any questions.



There are three basic types of anesthesia. With a general anesthetic, the drugs are injected into your arm and you will be completely asleep within seconds. With a spinal anesthetic, you will have no sensation from the waist downwards, whereas a local anesthetic, numbs only a specific area. The choice of anesthetic is made by your doctor and the anesthetist.



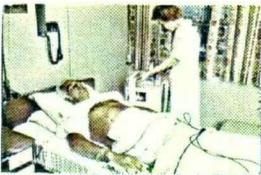
It is also necessary that you sign a medical authorization form. This grants the doctor permission to perform the surgery, and also indicates that you have had the surgery explained to you. If you do not sign the consent form, the surgery cannot be done.





For those of you who are over fifty years of age, an electrocardiogram, or E.C.G.

may be necessary. Electrodes are attached to parts of your body, and a machine will



record the pattern of your heart-beat. You will experience no sensation.



Depending on the type of surgery, a chest x-ray and/or other x-rays may be needed. If so, you will be taken to the x-ray department either the day before or the morning of your surgery.



As everyone is a bit nervous before surgery, it is customary for your doctor to order a sleeping medication for you. This will help you get a good night's sleep.



If the time of your surgery is fairly early the next day, you will not be allowed to eat or drink anything after midnight. This is what we call N.P.O., or nothing by mouth. Your stomach must be completely empty to ensure safety during your operation. So, PLEASE obey this request.



On the morning of your surgery, we request that all patients remove: eyeglasses, contact lenses, hair pieces, hearing aids, and all jewellery. A plain wedding band may be left on. For denture wearers, a special cup is provided for your teeth, and they will be left at your bedside until you return to the ward. It is necessary to remove dentures so as they will not be broken during your operation.



Ladies, must remember to remove all makeup, nail polish, false fingernails and eyelashes before going to the operating room. It is essential that the anesthetist be able to observe the colour of your nails and lips. Skin colour is an indication of your need for oxygen.



Your hair will be covered during surgery, and if it is long, it should be braided and tied with an elastic. All hair pins and barretts must be removed.



About one hour before your surgery time, you will be given a preoperative medication. This may be a pill, but is usually an injection. It is advisable to empty your bladder before the medication is given, as it may make you feel drowsy, relaxed, and unsteady on your feet and we will ask you to stay in bed. Do not be alarmed if your mouth gets very dry, as this is an effect some drugs have.



Wearing apparel to the Operating Room is a hospital gown only. Please, do not wear underwear.

HOSPITAL ADMISSION NOTICE

DATE: JAN 6, 1977

TIME: 10:00 AM

NAME: [illegible]

ROOM: [illegible]

ADMISSION: [illegible]

PHYSICIAN: [illegible]

OPERATION: [illegible]

ANESTHESIA: [illegible]

POST-OPERATIVE: [illegible]

REMARKS: [illegible]

The exact time of your surgery may be moved ahead or delayed, according to the operating room schedule. Sometimes the surgery before yours takes more or less time than planned. You will be informed if the time of your surgery has been changed.



When it is time for you to go to the operating room, a porter will transfer you there by stretcher.



Outside the operating room, you will be greeted by a member of the O.R. staff. This nurse will check the identification on your chart by asking you your name and your doctor's name.



Once you are transferred to the Anesthetic Room, the anesthetist will put you to sleep and you will not remember anything about your surgery.



After the surgery is completed, you will go by stretcher to the Post Anesthetic Room, or the P.A.R.





In the Post Anesthetic Room, there are many patients like you, who are also waking up from the anesthetic. At this time, we would like to clear up the misconception of patients revealing anything personal while under anesthetic. Patients rarely say anything when they are waking up, much less something that can be understood.



The nurse in the P.A.R. will frequently take your pulse, blood pressure, check your dressing, and observe the color of your skin to ensure all is well.



If you had a general anesthetic, you will wake up with an oxygen mask over your mouth and nose. This is a common procedure for everyone who has a general anesthetic.



Your stay in the post anesthetic room may vary from one hour to several hours. Your relatives and visitors are usually not able to visit you in the Recovery Room, but they will be told where you are, and how you are when they phone or come in.



When the nurses feel you are ready, you will be transferred to your ward by stretcher.





The ward nurses will again check your blood pressure, pulse, and dressing. Do not be alarmed if you do not have a dressing, or, it is much larger than you expected. Your surgeon likes to ensure that your incision is protected and well covered. The dressing may also feel tight until you get used to it.



Following your surgery, you may notice an intravenous going into your arm or hand. Your food intake will then be restricted accordingly. The length of time you will require an intravenous will depend on the type of surgery you had.



Some surgeries may require tubes or drains to keep your stomach empty, or prevent fluid from collecting under the skin. The colour of the drainage may be red, brown or greenish. These tubes will help decrease swelling and discomfort. Some patients may also require a urinary catheter, which will keep your bladder empty. The length of time that the catheter is needed, will vary, depending on the type and extent of your surgery.



In order to make your recovery smoother, you will be asked to co-operate in a series of exercises. Following an anesthetic, deep breathing and coughing exercises are done to help clear away secretions, fully expand your lungs, and prevent pneumonia.



You must breathe deeply in through your nose to the count of three, and out through your mouth to the count of three. After several deep breaths, try and make yourself cough. This should be a deep abdominal cough and not a shallow throat cough. Deep breathing and coughing exercises should be done every hour after surgery.



It is also very important to splint your incision with a small pillow and bend your knees while doing the exercises. This will give you added support and reduce discomfort. DO NOT WORRY AS COUGHING WILL NOT CAUSE YOUR STITCHES TO BREAK OPEN.



Leg exercises are also important for a smooth recovery, as they not only improve circulation to all parts of your body, but also keep your muscles in tone. As often as you can remember, you should wiggle your toes, move your ankles in a circular motion, and relax and contract the muscles in your legs.



Following a surgical procedure, you can expect discomfort, an ache, or pain. The nurse cannot remove every bit of discomfort, as so much medication would put you to sleep. Then you would not be able to do the necessary exercises. Pain medication will be given frequently, and feel free to ask for it when you are uncomfortable. As the days go by, your need for medication will decrease.



It is also important that you do not lie in one position while in bed. Turning from side to side will help relieve discomfort, and also allow your blood to flow normally. The nurses will help you turn.



You may even be asked to sit at the side of the bed the evening of your surgery. This is called "dangling", and is a start on the road to recovery.



You must try not to over-exert yourself the first few days after surgery. Rest is very important in the healing process. Sleep when you can, but when awake, remember to do your exercises.



Then you may start walking short distances. Getting up and moving about as soon as possible, will help your blood to circulate, and prevents your muscles from getting stiff and sore. Activity also helps you feel better.





As the days go by, you will start to feel better. You will most likely progress from a diet of fluids to soft foods, and then to a normal diet.



As soon as the nurse feels you are able, she

may encourage you to start looking after yourself.

This will help you regain your strength and self



confidence, and will prepare you for going home.

## APPENDIX C

### QUESTIONNAIRE

#### Evaluation of Preoperative Knowledge

# QUESTIONNAIRE

## EVALUATION OF THE PREOPERATIVE KNOWLEDGE

The following items are TRUE - FALSE statements. Please CIRCLE the answer you feel is correct.

- |  |      |       |
|--|------|-------|
| 1. A urine and blood sample is required from each patient before surgery, in order to detect any abnormalities which may affect the course of your anaesthetic or surgery. | TRUE | FALSE |
| 2. Hair removal, of the area to be operated on, is usually required before surgery, as hair is a possible source of infection.   | TRUE | FALSE |
| 3. Patients are not allowed to eat or drink anything <u>twenty-four</u> hours before their surgery.  | TRUE | FALSE |
| 4. An enema is given before surgery to eliminate stomach and abdominal pain after surgery.   | TRUE | FALSE |
| 5. Although you are told not to eat or drink anything before your surgery, a glass of water will not be harmful.   | TRUE | FALSE |
| 6. It is important to stay in bed after the preoperative medication has been given, as you may become very drowsy and unsteady on your feet.                               | TRUE | FALSE |
| 7. It is important to empty your bladder after the preoperative medication is given.   | TRUE | FALSE |
| 8. After your surgery has been completed, you will wake up in your own room on the ward.   | TRUE | FALSE |
| 9. If you wear dentures, it is permissible to leave them in your mouth during the surgery.   | TRUE | FALSE |
| 10. Oxygen is given to all patients following a general anaesthetic.   | TRUE | FALSE |
| 11. Patients often reveal personal secrets while they are under anaesthetic.   | TRUE | FALSE |
| 12. The nurses in the post-anaesthetic room continuously check your pulse and blood pressure to ensure that all is well.   | TRUE | FALSE |
| 13. The nurses in the post-anaesthetic room may frequently ask you your name to find out who you are.  | TRUE | FALSE |

- |   |      |       |
|---|------|-------|
| 14. If your throat feels irritated following surgery, you are probably developing a cold.   | TRUE | FALSE |
| 15. Depending upon the type of surgery performed, you may require tubes or drains to prevent fluids from collecting in certain parts of your body.        | TRUE | FALSE |
| 16. If a tube is required, and the colour of the drainage is red, brown, or greenish, it is an abnormal condition.  | TRUE | FALSE |
| 17. Following some surgeries, an intravenous may be necessary, but this will not interfere with your normal diet.   | TRUE | FALSE |
| 18. The dressing from your surgery may be much larger than you expected, because the surgeon likes to make sure everything is well protected and covered. | TRUE | FALSE |
| 19. Deep breathing and coughing exercises are done to help clear away secretions and fully expand your lungs.   | TRUE | FALSE |
| 20. While doing the deep breathing and coughing exercises, it is important to support your incision to prevent the stitches from breaking open.           | TRUE | FALSE |
| 21. Leg exercises are done while you are in bed to stimulate blood flow to every part of your body and keep your muscles toned.                           | TRUE | FALSE |
| 22. It is important to lie in one position following surgery.   | TRUE | FALSE |
| 23. After surgery pain medications will be available to help decrease your discomfort.  | TRUE | FALSE |
| 24. The day after having had your surgery, you will be fully responsible for your own care.   | TRUE | FALSE |
| 25. Patients are <u>never</u> allowed out of bed the same day as the surgery.   | TRUE | FALSE |

APPENDIX D  
QUESTIONNAIRE

Satisfaction of Preoperative Teaching Programme

GROUP ONE - Experimental Subjects

GROUP TWO - Control Subjects



POST-SURGICAL QUESTIONNAIRE

GROUP ONE

PLEASE indicate with a check \_\_\_\_\_ the statement  
you feel best applies to the following questions:

1. If you were previously hospitalized for surgery, did you receive preoperative teaching? \_\_\_\_\_ yes \_\_\_\_\_ no
2. On your present admission to hospital, did you receive preoperative teaching ? \_\_\_\_\_ yes \_\_\_\_\_ no
3. How satisfied were you with the preoperative teaching you received?
4. How satisfied were you with the way procedures and routines were explained to you?
5. How satisfied were you with the slide-tape programme?
6. Which was more helpful to you?  
\_\_\_\_\_ the preoperative letter, or  
\_\_\_\_\_ the slide-tape teaching programme

completely satisfied
satisfied
minimally satisfied
dissatisfied

POST-SURGICAL QUESTIONNAIREGROUP TWO

PLEASE indicate with a check \_\_\_\_\_ the statement  
you feel best applies to the following questions:

1. If you were previously hospitalized for surgery, did you receive preoperative teaching? \_\_\_\_\_ yes \_\_\_\_\_ no
2. On your present admission to hospital, did you receive preoperative teaching? \_\_\_\_\_ yes \_\_\_\_\_ no
3. How satisfied were you with the preoperative teaching you received?
4. How satisfied were you with the way procedures and routines were explained to you?

completely satisfied
satisfied
minimally satisfied
dissatisfied

APPENDIX E  
PREOPERATIVE LETTER

Dear Patient:

We are taking this opportunity to contact you prior to your admission to Vancouver General Hospital to supply you with some basic information. We hope this will make your admission easier.

#### Time of arrival

We expect you sometime between 11 a.m. and 2 p.m. The elective admission office closes at 4 p.m. Special permission is required for emergency admitting after 4 p.m.

#### Admission

You will be informed which entrance to come to. The Heather Entrance is on Heather Street between 11th and 12th Avenue. Drive into the Doctor's and Admitting parking lot. If you do not have your parking ticket validated at the admission office you must pay for parking when you exit.

The Centennial Main Entrance is on 12th Avenue. There is a circular drive to drop off luggage and patients plus some meter parking is available. Additional parking may be found in the general parking lot across the street or in the Emergency parking whose entrance is on Laurel Street. Once again have your parking ticket validated at the admission office for free parking. A map of the admitting entrances is attached to this letter.

#### Parking is limited

It is advised that you arrange to have someone take your car home during your stay in hospital.

#### The Unit

When you have completed the admission procedure you will be accompanied to your hospital room.

#### Name tags and emblems

All staff wear name tags or shoulder emblems identifying their position. Try to watch for these to prevent asking questions of the wrong person. Don't, however, be afraid to ask questions as one member of the hospital team can summon another.

#### Supplied by the Hospital

You will be given an identification bracelet to wear while you are a patient with your name and your doctor's name on it.

The hospital supplies pyjamas, gowns, house coats, slippers, towels, face cloths and soap. You are free to bring all of these articles yourself if you wish.

Do bring your personal toilet articles - tooth brush, tooth paste, deodorant, brush and comb and shaving articles.

For admission bring:

1. identification.
2. your Medical Insurance Card.
3. the name and permanent address and telephone number of a friend or acquaintance who has known you for six months.
4. a list of any medication you are currently taking.

Do not bring:

1. additional clothes or suitcases as there is limited storage space and they could get lost.
2. valuables, money and jewellery as they cannot be kept safely on the unit.
3. personal medication and alcohol. These are not to be consumed in the hospital as their action could be very dangerous when combined with hospital treatment.
4. personal electrical appliances such as fans, televisions and hairdryers. They cannot be used unless they are in good working order and have been approved by the hospital maintenance department. Ask your nurse for help with this.

#### Services the hospital provides

The gift shop is at the main entrance in Centennial Pavilion.

(Hours: Monday to Friday 10 a.m. to 7:30 p.m.  
Saturday 10 a.m. to 5 p.m.  
Sundays & Holidays 1 p.m. to 5 p.m.)

The newstand is on the main floor of Heather Pavilion (rotunda).

Television rental service forms are available at each nursing station to make application. The service is purchased day by day (\$1.75 per day) plus \$1.35 for a personal ear phone.

Daily newspaper service: The paper is delivered morning and evening. The delivery person will circulate to all the rooms with the "Sun" and the "Province".

Hairdresser and Barber services are available by appointment 2-3 days in advance (through your nurse). A percentage of the fee is demandable if the service is refused without a cancellation.

#### Visiting Hours

Visiting is from 2-8 p.m. on all regular wards. Children are not denied but discretion should be exercised. The ruling of two visitors to a patient is in force.

### What to expect the evening before surgery

Although surgical procedures may vary from case to case, they all have some things in common, some do's and don'ts that will be important for you to know. To help make this experience as reassuring and safe as possible, information given below will be discussed with you when you are admitted and you will be encouraged to ask any questions you wish. Please remember your safety and well-being are our primary concern, and your co-operation is very important.

Activity - You may be up and about as you desire the evening before your operation.

Diet - You will receive your usual diet, unless your doctor has ordered otherwise. Smoking and any alcohol beverages are not allowed. Neither food NOR fluids (including water) are allowed after midnight prior to your day of surgery. This includes chewing gum, hard candy, "Certs", etc. In other words NOTHING BY MOUTH! this is extremely important - EVEN A TINY VIOLATION will mean that your operation will be cancelled.

Smoking is potentially hazardous to patients having surgery. You are encouraged to stop smoking now so that your lungs are clear and healthy by the time of your surgery. Smoking is prohibited in patient rooms.

### Examinations and Diagnostic Tests

- The house doctor will give you a complete physical examination, take a medical history and arrange for any necessary laboratory or other diagnostic tests. This may have been completed by your own doctor before your admission.
- The nurse will visit you and would appreciate any information from you that would help her personalize your nursing care.
- The doctor who will give the anaesthetic will also visit you and prescribe the necessary medications to be given on the evening prior to surgery and on the day of surgery.

### Procedures:

1. Skin Preparation: Generally, this is a skin shave or clipping and a cleansing of the area with an antiseptic solution. A tub bath or shower may be taken prior to your surgery.
2. Breathing Exercises - Leg Exercises: Instructions will be given by your nurse or physiotherapist. You will be encouraged to do these exercises after your operation, as they will improve your circulation and hasten your recovery.
3. Enema: Will be given to cleanse the bowel, if ordered by your doctor.

4. Urine Specimens: One is to be collected on admission and a second one early in the morning of your operation. Please use the bedpan or urinal and notify the nurse.
5. Care of valuables: EVERY EFFORT SHOULD BE MADE TO LEAVE YOUR VALUABLES AT HOME. If this is impossible, the nurse will remove all jewellery and valuables and store them in safekeeping for you.
6. Other Effects: You will be required to remove hair pins, hair pieces or wigs, nail polish or false nails and make-up. Remove dentures and place in identified container at your bedside. You are allowed to wear only a hospital gown.

### The day of surgery

Approximately one hour before operation, you will be given medication which may make you feel relaxed and your mouth dry. You should empty your bladder before this medication is given.

NOTE OF CAUTION: Do not get out of bed after taking this medication without calling your nurse first. You may feel drowsy and unsteady on your feet.

Half an hour before surgery, you will be taken to the operating room and met by the Operating Room staff. They will check your identification bracelet before you are given your anaesthetic.

Following your surgery, you will be taken to the recovery room where you will be cared for by nurses who are specially trained and constantly present, until you awaken.

On return to your room, you will be cared for by the staff on the nursing unit until you are ready to go home.

Medications are ordered by your doctor will administered to relieve pain and keep you relaxed and comfortable.

Visitors are not permitted in the recovery room, but regular visiting hours are maintained on the nursing unit.

To help make your hospital experience as reassuring and safe as possible, the information above will be discussed at a teaching session the evening before your surgery. The session will start at 7:00 p.m., and both you and your family are invited to attend. Your nurse will direct you to the location.

KNOWING WHAT TO EXPECT IS HALF THE BATTLE. WE HOPE THIS INFORMATION WILL HELP YOU FEEL MORE COMFORTABLE, AND WE WILL DO OUR BEST TO MAKE YOUR STAY IN HOSPITAL AS PLEASANT AS POSSIBLE.

APPENDIX F  
PATIENT PROFILE SHEET



## PATIENT PROFILE SHEET

PATIENT 01:

AGE:

SEX:

DIAGNOSIS ON ADMISSION:

TYPE OF SURGERY:

SURGEON:

PREVIOUS HOSPITAL ADMISSION:

1. LENGTH OF HOSPITAL STAY: ADMISSION DATE -  
DATE OF DISCHARGE -

2. POSTOPERATIVE COMPLICATIONS:

3. ANALGESICS ADMINISTERED POSTOPERATIVELY:

(24 hours)

I.M.

(24-96 hours)

TABS

4. RECALL OF PREOPERATIVE KNOWLEDGE: /25

5. POST-SURGICAL QUESTIONNAIRE: