

# NURSING DIAGNOSES AND PROPOSALS FOR NURSING INTERVENTIONS FOR PATIENTS IN THE IMMEDIATE POST-OPERATIVE PERIOD FOLLOWING ELECTIVE SURGERY\*

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**ABSTRACT:** This study aimed to identify the nursing diagnoses presented by patients in the immediate post-operative period following elective surgery, and to propose nursing interventions. It is a quantitative, exploratory and descriptive study. It involved 27 patients receiving inpatient treatment in the surgical department of a university hospital in the south of Brazil, of both sexes, who were in the immediate postoperative period, in March – April 2011; and who did not present complications or need to be re-operated on. Using Risner's model of diagnostic reasoning, seven North American Nursing Diagnosis Association diagnoses were identified. A total of 62 nursing interventions, based in the Nursing Interventions Classification, which could lead to a reduction in harm to these specific patients, were proposed. The interventions, grounded in the diagnoses, allow the nurse to work with autonomy and to provide individualized care, based in the factors reported and in the defining characteristics identified.

**DESCRIPTORS:** Nursing diagnoses; General surgery; Post-operative care.

## DIAGNÓSTICOS E PROPOSTAS DE INTERVENÇÕES DE ENFERMAGEM AOS PACIENTES EM PÓS OPERATÓRIO IMEDIATO DE CIRURGIA ELETIVA

**RESUMO:** Objetivou-se identificar os diagnósticos de enfermagem apresentados por pacientes em pós-operatório imediato de cirurgia eletiva e propor intervenções de enfermagem. Realizou-se uma pesquisa quantitativa, exploratória e descritiva. Evoluídos 27 pacientes internados na clínica cirúrgica de um hospital universitário no Sul do Brasil, maiores de 18 anos, ambos os sexos, que estivessem em pós-operatório imediato no período de março e abril de 2011; e que não apresentasse complicações, nem re-operações. Utilizando o raciocínio de diagnóstico de Risner, identificaram-se sete diagnósticos segundo a *North American Nursing Diagnosis Association*. Propôs-se 62 intervenções de enfermagem baseadas na *Nursing Interventions Classification*, que pudessem propiciar redução de danos a esses pacientes específicos. As intervenções, notadas pelos diagnósticos proporcionam autonomia ao enfermeiro e um cuidado individualizado, fundamentados nos fatores relacionados e nas características definidoras identificadas.

**DESCRIPTORIOS:** Diagnóstico de enfermagem; Cirurgia geral; Cuidados pós-operatórios.

## DIAGNÓSTICOS Y PROPUESTAS DE INTERVENCIONES DE ENFERMERÍA A LOS PACIENTES EN POSOPERATORIO INMEDIATO DE CIRUGÍA ELECTIVA

**RESUMEN:** Estudio cuyo objetivo fue identificar los diagnósticos de enfermería presentados por pacientes en posoperatório inmediato de cirugía electiva y proponer intervenciones de enfermería. Se realizó una investigación cuantitativa, exploratoria y descriptiva. Participaron 27 pacientes internados en la clínica cirúrgica de un hospital universitario en el Sur de Brasil, mayores de 18 años, ambos los sexos, que estuvieran en posoperatório inmediato en el periodo de marzo y abril de 2011; y que no presentasen complicaciones o re-operaciones. Utilizando el raciocinio de diagnóstico de Risner, se identificaron siete diagnósticos de acuerdo a *North American Nursing Diagnosis Association*. Fueron propuestas 62 intervenciones de enfermería basadas en la *Nursing Interventions Classification*, que pudiesen propiciar una reducción de daños a esos pacientes específicos. Las intervenciones, fundamentadas por los diagnósticos, posibilitan autonomía al enfermero y un cuidado individualizado, fundamentado en factores relacionados y en las características definidoras identificadas.

**DESCRIPTORIOS:** Diagnóstico de enfermería; Cirugía general; Cuidados posoperatorios

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## INTRODUCTION

Surgery, for anybody, is a stressful and complex situation, and has a long history<sup>(1)</sup>. Surgical procedures are evolving on a daily basis, and becoming safer, with greater accuracy of the preoperative diagnoses and greater reliability in surgical indication, such as therapy and planning of the surgical technique. These contribute to a faster post-operative period for the patients<sup>(2)</sup>.

As a result, individuals who continue to receive inpatient treatment in the post-operative period require greater care, even patients who receive elective surgery, given that inpatient treatment is necessary, generally, for patients who undergo intermediate and major surgery and present concomitant clinical disorders<sup>(1)</sup>.

Peri-operative nursing is a speciality which covers various aspects of the nursing care. The nurse's work, in this period, is to make an evaluation of each of its phases, these being the pre-operative, intra-operative, and post-operative phases<sup>(3)</sup>.

The expression 'nursing diagnosis' (ND), defined as a "a clinical judgment which provide the basis for selection of nursing interventions to achieve outcomes"<sup>(4:103)</sup>, came to be used formally in the 1950s, in the context of clinical diagnoses. In 1973, patients' needs in the ambit of nursing were identified, and single descriptive terms were established, called nursing diagnoses, this being undertaken later following the creation of the North American Nursing Diagnosis Association (NANDA International)<sup>(5)</sup>.

In accordance with the above, the Nursing Interventions Classification (NIC)<sup>(6)</sup>, Nursing Outcomes Classification (NOC), and NANDA International (NANDA I), aim to standardize language and communication between nurses and nursing teams. As well as optimizing the time in the elaboration of nursing diagnoses, they allow the nurse to spend more time on care activities<sup>(7)</sup>.

Theoretical and scientific knowledge, in conjunction with NIC and NANDA I, have become an instrument allowing the professional greater viability to administer nursing care in a more qualified and comprehensive way<sup>(8)</sup>.

The Brazilian Federal Council of Nursing, under Resolution N. 358/2009, also acted in relation to this issue, contributing to the nursing care, when it determined the obligatory character

of applying the Systematization of Nursing Care for all patients. It should be made clear, however, that this is an activity which is proper to the nurse, because it is a method used for identifying the service user's health/illness process, thus contributing to the promotion, prevention, recovery and rehabilitation of the patient, in accordance with the principles of the Unified Health System (SUS)<sup>(9)</sup>.

It is understood that nursing diagnoses and possible interventions, related to individuals in the immediate post-operative period, are a theme which remains little addressed in professional practice, along with the other topics which cover the Systematization of Nursing Care (SNC).

In the light of this issue, the development of this investigation is justified. It aims to: identify the nursing diagnoses presented by patients in the immediate post-operative period following elective surgery, using the Taxonomy II of NANDA I<sup>(4)</sup>; and to propose nursing interventions for the care of these patients, in accordance with NIC<sup>(6)</sup>.

## METHOD

This is a quantitative, exploratory and descriptive study, undertaken in the second surgical unit of an entirely public university hospital, located in the city of Florianópolis, in the Brazilian state of Santa Catarina (SC).

The sample consisted of 27 patients receiving inpatient treatment in the second surgical unit, who were in the immediate post-operative period following elective surgery, during the data collection period, which occurred between March and April 2011. The inclusion criteria were: to be a patient aged over 18 years old, of either sex, to be in the immediate post-operative period following elective surgery in the data collection period, not to be pregnant, not to have complications in the post-operative period, re-operated on.

The investigation was undertaken in three stages. The first stage was data collection, through consulting the medical records (identifying age and sex, and type, day and time of the elective surgery undertaken), the nursing history (seeking to identify post-operative complications, re-operations, pregnancy) and, finally, the nursing progression was undertaken in the surgical unit's

electronic instrument for the 27 patients who met the inclusion criteria.

The second stage consisted of the identification of the nursing diagnosis. For this, Risner's process of diagnostic reasoning<sup>(10)</sup> was used, whose stages are: analysis and synthesis.

The stage of analysis is that in which the material collected is separated into parts and critically examined. In this phase, there are two stages: categorization of the data, which are organized in a logical and systematized way, and may be based in the different conceptual models; identification of gaps in the data, understood as being the stage in which the incomplete data are evaluated, there possibly being a need for further collection of data, which, in this study, was not necessary. It should be emphasized that in this study the analysis phase was undertaken during data collection, through the instrument for recording the nursing progression.

The synthesis stage is the phase in which the process of diagnostic nursing reasoning is undertaken, covering the following stages: grouping of relative data and comparison of the data with theories, models and concepts, which are the main stage of the synthesis phase, in which the data collected on the patient are interpreted and compared with the norms and standards; identification of anomalies or health strengths (inference or hypothesis) which is the stage of clinical judgment and involves the elaboration of diagnostic hypotheses, considering the conclusions outlined regarding the patient's problems following comparison with theories, models and concepts; and, the proposal for etiological relationships. In this stage, the factors which influenced or contributed to the elaboration of the hypotheses (interferences) are identified<sup>(10)</sup>.

In this investigation, the inferences occurred following data collection, when the problems presented within the individual risk factors of each patient in the post-operative period following elective surgery were reported.

After the application of the process of diagnostic reasoning to the data collected, the diagnostic confirmations were constructed, using the Taxonomy II of the NANDA I Classification<sup>(4)</sup> with its defining characteristics, related factors, or risk factors.

In the third and final stage, considering the diagnostic identifications found, especially for

these individuals in the immediate post-operative period, the elaboration of the proposal for nursing interventions was sought, in accordance with the NIC Classification<sup>(6)</sup>, for the nursing diagnosis which obtained a frequency equal to or over 50% in the 27 patients investigated.

Various factors are considered essential for the selection of nursing interventions according to the NIC<sup>(6)</sup>. In this study, the six main ones were adopted for decision-making: the results aimed for, the characteristics of the ND, the basic research for the intervention, the viability of the action, the adherence of the patient to the therapy proposed, and the nurse's ability.

The study was approved by the Committee for Ethics in Research with Human Beings of the Research and Extension Department of the Federal University of Santa Catarina, under protocol n. 1169/2010. The participants were invited to participate and all accepted and signed the terms of consent. They were ensured the right to withdraw from the research at any time, along with complete anonymity.

## RESULTS

Of the 27 patients who participated in the investigation, 15(56%) were male and 12(44%) were female. In relationship to age, four (14.8%) patients were below 30 years old, 15(55.5%) were between 30 and 60 years old, and eight (29.6%) were aged over 60 years old.

The post-operative patients were from different medical specialities. Those receiving inpatient treatment following plastic surgery made up the majority of the sample, 10(37%) of the patients, followed by urological surgery with seven (25.9%), proctological surgery with five (18.5%) and vascular surgery with four (14.8%).

A total of 18 nursing diagnoses were identified in these patients, in the immediate post-operative period. These were 12 actual nursing diagnoses and six nursing risk diagnosis.

In relation to the selection made for this investigation, values equal to or superior to 50% of the results found were presented in the 27 patients investigated, therefore there were seven (51.8%) real nursing diagnoses, followed by the risk factors and the defining characteristics which

the individuals manifested, thus formulating the diagnoses set out<sup>(4)</sup>.

The nursing diagnosis 'Deficit in self-care for bathing' was related to pain in 19(70.3%) of the patients, to musculoskeletal impairment in five

(18.5%) and to weakness in one (2.7%), these manifested through inability to access the bath, to wash the body, to obtain the source of the water, to pick up articles for the bath, to regulate the water of the bath, and to dry the body.

Table 1 – Distribution of the patients in the immediate post-operative period, following elective surgery, according to the formulations of the actual diagnoses. Florianópolis-SC-Brazil, 2011

Formulation of the Actual Diagnosis	n	%
1. Acute pain related to physical harmful agents, manifested by observed evidence of pain, changes in appetite, verbal reports of pain	27	100
2. Impaired skin integrity related to mechanical factors, manifested by breaking of the skin surface, invasion of body structures	27	100
3. Impaired physical mobility related to pain, manifested by a limited breadth of movement, difficulty in turning, slow movements	23	85,1
4. Deficits in self-care for bathing related to pain, manifested by a limited breadth of movement, difficulty in turning, slow movements	19	70,3
5. Deficits in self-care for hygiene related to pain, manifested by inability to access the bathroom, to wash the body, to turn on the water, to reach items for bathing, to regulate the water of the bath, to dry the body	19	70,3
6. Deficit in self-care for dressing related to pain, manifested through impaired ability to put on necessary items from the wardrobe, impaired ability to take off necessary items from the wardrobe	18	66,6
7. Constipation related to recent changes of environment, manifested by inability to eliminate feces, nausea, abdominal pain, indigestion, changes in the intestinal pattern	14	51,8

## DISCUSSION

In this study, the nursing diagnosis of Acute pain was related to harmful agents and was manifested by the observed evidence of pain, changes in appetite, and verbal reports of pain<sup>(4)</sup>. Hence, these clinical manifestations are justified as they are in the immediate post-operative period in which the presence of trauma is provoked by the very recent surgical damage to the tissue.

When this diagnosis is identified by the nurse, various factors must be observed, such as: age, sex, level of education, occupation and race<sup>(11)</sup>, as pain is one of the most intimate and exclusive sensations experienced by the human being, as it involves various sensory, affective, cognitive, social and behavioral components and will always be subjective<sup>(12)</sup>.

As a result, the evaluation of the painful experience is fairly difficult. According to the International Association for the Study of Pain, pain is

an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage<sup>(12:105)</sup>.

Each individual learns to use these terms

through her previous traumatic experiences, and thus pain can never be subjugated; when not treated appropriately it affects the patients' quality of life and, consequently, their entire recovery in the post-operative period<sup>(12)</sup>.

As may be observed, through the formulated set of the nursing diagnoses, patients' pain in the immediate post-operative period was related to impaired physical mobility and deficit in self-care, whether for bathing, dressing or hygiene.

When we speak of the nursing diagnosis of deficit in self-care, in this study, it was identified in three situations: Deficit in self-care for bathing, Deficit in self-care for hygiene and Deficit in self-care for dressing.

The nursing diagnosis of Deficit in self-care for hygiene, manifested by inability to get to the toilet or toileting chair; inability to flush the toilet; inability to clean oneself after elimination; inability to stand up from the toilet or the toileting chair; inability to arrange clothing so as to undertake hygiene; inability to sit on the toilet or the toileting chair, was also related to the same aspects, practically in the same proportion, altering only what was related to

weakness, which was presented in two patients.

The nursing diagnosis of Deficit in self-care for dressing, which is manifested by impaired ability to put on items from the wardrobe; impaired ability to take off items from the wardrobe was related to pain in 18 (66.6%) of the cases and to weakness in one patient.

Another nursing diagnosis, identified in all the patients, was Impaired skin integrity, related to mechanical factors and manifested by breaking of the skin surfaces and invasion of body structures<sup>(4)</sup>.

According to the NANDA I definition<sup>(4)</sup>, impaired skin integrity is defined as altered epidermis and/or dermis. Hence, it is a state which the individual in the immediate post-operative period presents<sup>(13)</sup>.

The principle of the nursing care is justified, as the tissues are groups of specialized cells which unite to perform specific functions. The complex interactions between the dermis and the epidermis lead the message from one to the other in the case of injury needing correction<sup>(14)</sup>. The nursing intervention in this aspect, in patients in the immediate post-operative period, is fundamental so as to avoid further injuries to impaired tissue, such as pressure ulcers, in addition to promoting care or repair of the tissue.

Furthermore, among the nursing diagnoses which had a frequency of 51.8% (14), the nursing

diagnosis of Constipation was identified, related to the recent changes in environment, manifested by inability to eliminate feces accompanied or not by nausea, vomiting, abdominal pain and indigestion.

These changes are not only related to change of environment per se, but rather to a complete change in the patient's eating and habits. Due to this, constipation is a very frequent condition in hospitalized patients, as there is a clear difference in the diet of patients in the hospital environment and also because the patient's physical mobility is reduced, factors which directly interfere in intestinal function<sup>(15)</sup>.

The NIC<sup>(6)</sup> addresses direct or indirect care, focusing on the individual, family and community, it is the set of the nursing activities, according to their groups or sets, taking into consideration the relationships and determinations which designate the interventions of a group. The selection of an intervention requires direct decision-making from the nurse for a specific patient.

Therefore, in relation to this decision-making, in accordance with the physical and structural characteristics of the surgical center, the defining characteristics presented by the patients in the immediate post-operative period following elective surgery, and grounded in the NIC Interventions<sup>(6)</sup> a proposal for action was presented for each one of the seven nursing diagnosis identified.

Table 1 - Nursing Diagnoses and Interventions, Florianópolis-SC-Brazil, 2011

Nursing Diagnoses <sup>(4)</sup>	Nursing Interventions <sup>(6)</sup>
1.Acute pain	<p>Undertake a complete evaluation of the pain, including place, characteristics, start/duration, frequency, quality, intensity and severity, as well as precipitating factors</p> <p>Observe the occurrence of nonverbal indicators of discomfort, in particular in patients who are unable to communicate efficiently</p> <p>Use therapeutic strategies of communication for recognizing the experience of pain and transmitting acceptance of the patient's response to pain</p> <p>Investigate the factors which alleviate/worsen the pain</p> <p>Provide information regarding the pain, its causes and duration, and discomfort expected as a result of the procedures</p> <p>Control environmental factors capable of influencing the patient's response to the discomfort</p> <p>Reduce or eliminate factors which precipitate or increase the experience of pain</p> <p>Encourage the patient to monitor her own pain and intervene appropriately</p> <p>Administer analgesia when prescribed</p> <p>Apply heat/cold when appropriate.</p>
2.Impaired physical mobility	<p>Determine the patient's current ability to transfer</p> <p>Select the appropriate transferral technique for the patient</p> <p>Guide the patient regarding all the appropriate techniques, aiming to achieve the highest level of independence</p> <p>Guide individual regarding the use of walking aids</p> <p>Identify the methods for preventing lesions during transference</p> <p>Use the correct body mechanics during the movements</p> <p>Keep the patient's body correctly aligned during the movements</p> <p>Help the patient to walk using the body as a human crutch, as appropriate</p> <p>Evaluate the patient at the end of transfer regarding correct body alignment, the non-occlusion of catheters and drains, bedclothes with wrinkles and folds, skin unnecessarily exposed, appropriate level of comfort for the patient, bedsides raised and the call-bell within reach.</p>
3.Deficit in self-care for bathing	<p>Provide assistance in bathing</p> <p>Maintain care with nails, perineum, hair, eyes, ears and feet</p> <p>Promote oral health</p> <p>Promote body mechanics</p> <p>Improve the patient's body image</p> <p>Improve the patient's self-esteem</p> <p>Assist in the use of the toilet</p> <p>Assist the patient in dressing/grooming</p> <p>Encourage the exercising of dressing.</p>
4.Deficit in self-care for hygiene	<p>Provide assistance in hygiene</p> <p>Maintain care for the perineum</p> <p>Promote body mechanics</p> <p>Improve the patient's body image</p> <p>Improve the patient's self-esteem</p> <p>Assist in toileting.</p>
5.Deficit in self-care for dressing	<p>Offer clothing in such a manner that the patient has access to it (e.g. next to the bed)</p> <p>Be available to help the patient dress, if necessary</p> <p>Maintain privacy while the patient dresses</p> <p>Reinforce the patient's attempts to dress himself on his own.</p>
6.Impaired skin integrity	<p>Apply dressings with appropriate topical medication</p> <p>Observe signs and symptoms of infection</p> <p>Observe and maintain care with pressure areas</p> <p>Hydrate the skin when necessary</p> <p>Undertake daily cleaning of the surgical incision</p> <p>Observe and record possible changes in the lower extremities</p> <p>Advise or position the patient for better flow of the circulation</p> <p>Observe signs and symptoms of infection in venepuncture</p> <p>Observe skin alterations.</p>



7. Constipation	Monitor the appearance of signs and symptoms of constipation Note the date of the last bowel movement Monitor the bowel movements, including frequency, consistency, shape, volume and color of feces, if appropriate Monitor bowel sounds Record pre-existing intestinal problems and laxative use Encourage increase in ingestion of liquids, unless this is contra-indicated Evaluate the profile of the medications in relation to the gastro-intestinal side effects Advise the patient/family to record color, volume, frequency and consistency of feces Advise the patient regarding specific foods which assist in the promotion of intestinal regularity Advise the patient regarding foods rich in fiber, if appropriate Offer hot liquids after meals, if appropriate Administer enemas or irrigation, in accordance with the medical prescription Weigh the patient regularly Teach the patient/family about the normal digestive processes Teach the patient/family about the time period for resolving constipation.
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## CONCLUSION

This study sought, through scientific knowledge, to underpin a way of systematizing for attending the patient in the immediate post-operative period, according to the characteristics found within her context of elective surgery.

In analyzing these characteristics and identifying the real nursing diagnoses, through Risner's process of clinical reasoning, this method was considered satisfactory, as, for the total of 27 patients, seven different diagnoses were obtained, in which 100% presented acute pain and impaired skin integrity; 85.1% (23), impaired physical mobility; 70.3% (19), deficit in self-care for bathing and hygiene; 66.6% (18), deficit in self-care for dressing and 51.8% (14), constipation.

For making decisions in the nursing interventions, in the light of the diagnostic findings, the six factors recommended by the NIC were followed: the results aimed for, the characteristics of the diagnoses, the basic research, the viability of the action, the nurse's and the team's ability to undertake them, and the material and human responses available in the place where the investigation occurs.

For each one of the seven real diagnoses present in more than 50% of the patients in the post-operative phase, the respective proposals for nursing interventions were presented. As a result of this study, it was sought to offer a total of 62 actions for the nurse to assist them specifically, individualizing the care based on their related factors and their identified defining characteristics.

One limitation of this investigation, however,

was the low number of patients studied, justified by the need for patients in the immediate post-operative period in the data collection period.

It is believed, however, that this study's results can contribute to the nursing care provided to hospitalized individuals in the immediate post-operative period following elective surgery, attribute greater scientificity to the practice, and greater autonomy to the nurse.

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