

Elderly Hospitalized in the Post-Surgical Correction of Hip Fractures by Falls: A Nursing Care Protocol

Caren da Silva Jacobi*, Margrid Beuter, Karina Silveira de Almeida Hammerschmidt, Larissa Venturini, Eliane Raquel Rieth Benetti, Carolina Backes, Thiana Sebben Pasa, Marinês Tambara Leite, Melissa Agostini Lampert, Naiana Oliveira dos Santos, Matheus Souza Silva Jamile Laís Bruinsma, Francine Feltrin de Oliveira, Sandra da Silva Kinalski, Cristiane Trivisiol Arnemann

Polytechnic College, Teaching Department, Santa Maria Federal University, Avenida Roraima nº 1000, Prédio 70, Bloco G. 97105-900 – Santa Maria, Rio Grande do Sul, Brazil.

Research Article

Received date: 02/04/2021

Accepted date: 19/04/2021

Published date: 26/04/2021

*For Correspondence

Caren da Silva Jacobi, Polytechnic College, Teaching Department, Santa Maria Federal University, Avenida Roraima nº 1000, prédio 70, bloco G. 97105-900 – Santa Maria, Rio Grande do Sul, Brazil.

E-mail: cahjacobi@gmail.com

Tel: +5555999749475

Keywords: Aged, Accidental falls, Hip fractures, Geriatric nursing, Nursing care.

ABSTRACT

Objective: To develop a nursing care protocol for the elderly hospitalized after correction of hip fracture by fall.

Material and Methods: Convergent care research conducted with 16 nurses from the General Surgery Unit of a University Hospital in Brazil from January to December 2016. Data production used techniques such as conversational interviews, participant observation and convergence groups.

Results: The constructed protocol includes geriatric considerations for nursing care in the postoperative period and the mobilization of the elderly after hip fracture by fall correction in two types of surgery: correction of trochanteric fracture and hip arthroplasty.

Conclusion: The protocol qualifies nursing care for the elderly in the postoperative period, promotes their safe mobilization, contributes to avoid complications resulting from immobility, and enables nurses to act in gerontological care for the elderly who corrected hip fracture.

INTRODUCTION

Falls are the main cause of injuries in the elderly and can lead to reduced quality of life and high costs of individual, social and health care ^[1]. The incidence of falls increases with advancing age and varies according to the functionality of the elderly, those who keep it preserved fall less frequently, while those who presented a fall have a greater incidence vulnerability in the following year. The consequences of falls have an impact on the life of the elderly, such as fear of falling, reduction in activities and independence, immobility, change of habits and fractures ^[2]. Femoral fractures have a high incidence in the Brazilian elderly population and maintain exponential growth, with high lethality and costs for treatments. Brazilians aged 80 years or older are more vulnerable to morbidity and mortality, and older women are more affected than men are. For them, the incidence of hospitalizations for femoral fracture is 262.43 per 100 thousand, for men it is 153.53 per 100 thousand ^[3]. Also enunciated as hip fractures, Proximal Femur Fractures (PFF) occurs between the proximal end of the femur up to five centimeters below the smaller trochanter. Thus, PFF are considered those that occur within the hip joint capsule and extracapsular, which occur between trochanters, called trochanteric fractures. The treatment of PFF is surgical, except in situations that are chosen by the conservative approach. Intra capsular fractures require arthroplasty or hip prosthesis, with replacement of articular surfaces; extra capsular fractures are fixed, depending on the degree of stability ^[4]. Hip arthroplasties can be partial or total, in addition to being cemented, not cemented or hybrid. The decision of the procedure rests with the surgeon, who evaluates beyond comorbidities, patient imaging and expectations regarding treatment. The elderly are at increased risk of severe clinical complications of arthroplasty, being the beneficial effect of early mobilization for possible ambulation a consensus ^[5]. The Brazilian Guidelines for the Treatment of Femoral Neck Fracture in the Elderly point to nursing as notorious for multidisciplinary care with intra capsular fractures and confirm the importance of the team's knowledge about aging to plan effective interventions. Thus, this document suggests that all team members discuss clinical cases and their interventions more effectively ^[6]. In the meantime, nursing is at the forefront of care for the elderly who corrected PFF, demanding specific knowledge to provide quality care. Elderly with hip fractures often present comorbidities and clinical complications related to infections during hospitalization, such as pneumonia and urinary

infection, and mortality rate of 11.9% [7]. Currently, it is challenging to prevent injuries such as pressure injuries and infectious conditions from affecting the expected results of the treatment of fractures in the elderly, pointing to the need for health services to improve care, preventing care and institutional iatrogenic diseases. Thus, it is evident the need to build specific protocols for the care of the elderly in health institutions, to prevent adverse events and injuries, ensuring safe care and better prognosis [8]. The role of nurses in the planning of care for the elderly who have fallen and in care conducts that reduce the time of hospitalization and immobility is striking. This indicates the necessity of advancing follow-up care protocols for dependent elderly due to falls [9]. In nursing, the development of protocols seeks more effective health care [10]. Since the existing protocols that encompass the falls of the elderly refer to prevention and risk management [11-13]. The development and use of a protocol for nursing care for the elderly in the postoperative period of hip fracture by fall, given the increasing projection in the number of elderly and the high incidence of hospitalizations due to PFF, qualifies nursing care in the hospital environment and reduces hospitalization time. Thus, the aim of this study was to develop a protocol for nursing care for the elderly hospitalized in the post-correction of hip fracture by fall.

MATERIALS AND METHODS

This is an assistance convergent research (ACR) of qualitative approach, which followed criteria of the consolidated criteria for Reporting Qualitative Research (COREQ) [14]. The choice of method respects the proposal of innovations in care practice, considers the participation of professionals in the change process as a driving force for commitment to the proposed modifications and overlap of assistance actions with research in the same physical and temporal space [15]. In Brazilian nursing, ACR is the most used methodological framework for the construction of protocols [10] - thus, methodological decisions occurred according to the phases of the ACR: conception, instrumentation, peering and analysis [15]. In the conception, occurred the definition of the research problem, justification, theoretical and methodological references, and literature reviews. The research's instrumentation covered details of the physical space, participants and beginning of data collection. In the analysis, there was the continued production of the data with the investigation of conditions for the change in care practice, assuring that the strategies based on theoretical knowledge are feasible [15]. The research was developed in the surgical hospitalization unit of a teaching hospital in southern Brazil. The research participants were 16 nurses from the general surgery unit, representing the total of these professionals in the sector. The collection period took place from January to December 2016. Data production occurred through techniques indicated by the ACR such as conversation interview, participant observation and convergence groups (CG) (**Figure 1**) - Research steps. Source: Elaborated by the authors, Brazil, 2018. The conversation interviews were informal conversations during the care practice, with information about the care process and research data [15]. The conversation interviews and participant observation with the nurses took place in workplaces, such as: unit corridor, nursing station, resting room, secretariat and prescription room; they aimed to know how nurses performed care for the elderly after correction of PFF by fall. Nurses were observed in 107 clinical evaluations or procedures, with an average of 6.6 observations per nurse. There was a total of 37 hours and 48 minutes, with an average of two hours and 34 minutes of follow-up per nurse. Based on the data produced by the interview conversation and participant observation, the CG were performed, corresponding to the second stage of **Figure 1**, which aimed at reflection and discussion about postoperative care for elderly who experienced hip fractures by falls. The groups took place in the nurses' room, allocated in the surgical unit after prior scheduling. Five CG occurred and all nurses in the unit participated once in the group, and the CG had an average duration of 1 hour and 30 minutes and had the presence of research assistants. Didactic resources were used, such as PowerPoint presentation, printed figures, video, surgical description and radiographs of patients who underwent hip surgeries, as well as questions about the clinical presentation of the elderly in surgical situation and dynamics. With this dynamic, the nurses decided whether the themes discussed in the CG should be included in the nursing care protocol.

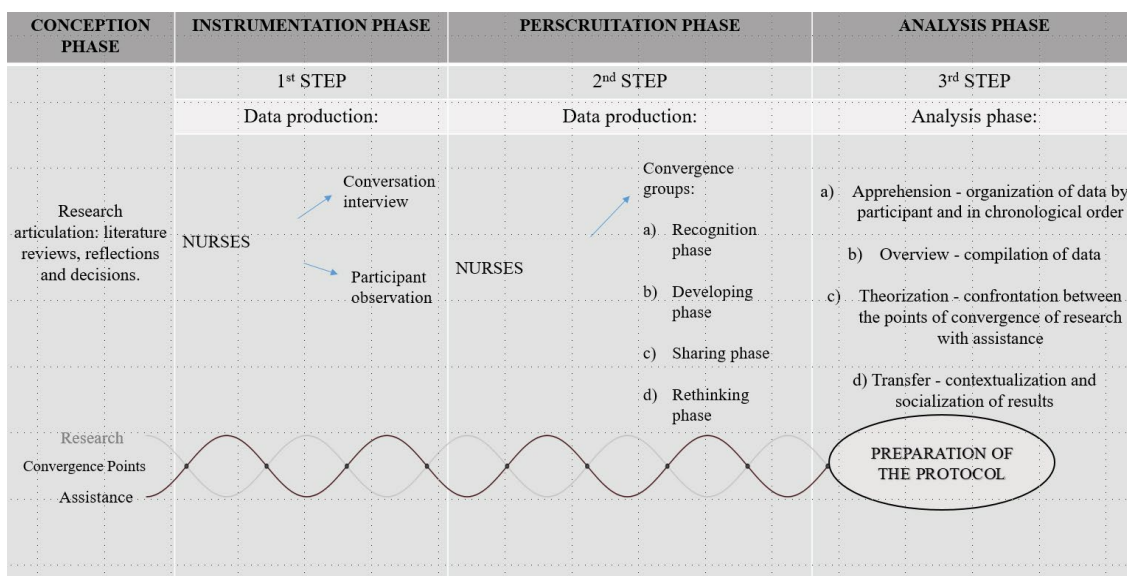


Figure 1. Research steps. **Source:** Elaborated by the authors, Brazil, 2018.

DATA ANALYSIS

The analysis phase of the ACR followed four processes: apprehension, synthesis, theorization and transference. The seizure began with the collection of data, in order to record the information in an organizational way^[15] in conversation interview notes and participant observation notes according to script, transcriptions and notes of group discussions in the case of the CG. In the synthesis, the compiled data were gathered coherently, aiming to unveil the phenomenon. From this, subsidies were developed to negotiate changes and strategies necessary to implement innovation^[15]. In this process, the coded interview and observation notes were read several times until the relevant notes for the research were found. From the indication of data with logical meaning, the categories were created. In the theorization process, abstraction and construction of relationships between construct groups occurred, the saturation of the categories incited the constitution of theoretical structures^[15]. The transfer occurred through the socialization of the singular results in the study scenario and areas of ACR action. For this, the results were in clear language to facilitate the transfer of findings and be disseminated through protocols, plans or training^[15]. In this phase, the validation of the protocol for nursing care was carried out with its availability for 15 days on the institution's website for public evaluation. After that, the protocol validated in the online system was released and the researcher shared the material with the hospital's nursing managers and the nursing team of the study scenario. Besides being online, the protocol was made available in print in the Surgical Unit. The current ethical precepts for research with human beings were respected, with approval by the Ethics and Research Committee in January 2016 under the registration number 1394524. All participants signed the Free and Informed Consent Form.

RESULTS

The protocol for nursing care for the elderly hospitalized in the post-correction of hip fracture by fall consists of two parts: 1) geriatric considerations and the nursing actions common to the elderly in the postoperative period and 2) mobilization of the elderly after correction of hip fracture in two situations: post-correction of trochanteric fracture and hip arthroplasty.

Geriatric considerations for nursing care for the elderly in the postoperative period

As considerações geriátricas abordadas para guiar o cuidado de enfermagem foram sugeridas pelos enfermeiros nos GC e expostas no protocolo na forma de quadro com as possíveis complicações no idoso, as ações de enfermagem pertinentes aos idosos no pós-operatório e observações importantes sobre o tópico. Os enfermeiros ponderaram como relevante a disponibilidade de tais informações em único documento, para facilitar a consulta rápida durante a rotina de trabalho. Tais considerações geriátricas podem ser aplicadas ao idosos que realizaram outros procedimentos cirúrgicos, além da correção de fratura de quadril (**Table 1**). The geriatric considerations addressed to guide nursing care were suggested by nurses in the CG and exposed in the protocol in the form of a condition with possible complications in the elderly, the nursing actions pertinent to the elderly in the postoperative period and important observations on the topic. The nurses considered as relevant the availability of such information in a single document, in order to facilitate quick consultation during the work routine. Such geriatric considerations can be applied to the elderly who underwent other surgical procedures beyond the correction of hip fracture.

Mobilization of the elderly after hip fracture by fall correction

The protocol was constructed and elaborated based on nursing actions that require the mobilization of the elderly, such as the bedpan use, diaper change, body hygiene, transfer to chair and armchair, repositioning in bed, change of decubitus and special care until the third postoperative day. These orientations emerged from the precepts of early mobility to avoid greater functional loss of the elderly by immobilization, maintenance of partial load on the operated limb, protection of possible curvatures of the surgical material used to correct trochanteric fractures, as well as movements to conserve hip arthroplasty abduction, essential to prevent dislocation (**Tables 2 and 3**).

The care for the mobilization of the elderly who underwent hip surgery is outlined in the flowchart that summarizes nursing care (**Figure 2**).

To enable access to the guidelines for care for the elderly and family after hospital discharge, educational materials were elaborated in the form of booklets, with illustrated guidelines of the recommended care for each type of surgery. These booklets were produced by the hospital and delivered to the elderly when health professionals guide them to hospital discharge.

DISCUSSION

The nurse working in a surgical unit needs to be equipped to care for the elderly after the correction of hip fracture and facilitate their role as educator in the face of doubts and fears pointed out by the elderly and their companion^[17]. In this sense, the construction of different possibilities of care for the elderly urged nurses to reflect on the complexity of care for this population. The ability of the elderly to recover from the trauma caused by surgery is lower than other age groups, which makes them more vulnerable to complications. This is due to the low functional reserve and the decrease in the capacity of defense and adaptation of the elderly with multiple co morbidities^[17]. Surgery on the hip of the elderly can reduce pain, improve movement, offer comfort at the end of life, besides facilitating nursing hygiene and work^[18], but requires mobilization care, often necessary to perform nursing procedures. Rehabilitation care demonstrated moderate evidence for improvement in the functional outcomes

Table 1. Geriatric considerations for postoperative care. Source: Adapted from [16]. Brazil, 2018.

Possible complications in the elderly	Nursing actions common to the elderly in the postoperative period	Observation
Respiratory Complications	Monitoring of oxygen saturation; raise the headboard from 30 to 45°; early mobilization.	The accumulation of secretion is due to the reduction of ciliary movement, reflex and efficacy of cough.
Delirium (hypoactive or hyperactive)	Placing calendar and clock near the bed; investigate fecal impaction and urinary retention; preventing immobility; avoiding interruptions of sleep and noise; maintaining soft lighting; reorienting in time and space; replacing prostheses and orthotics; requesting the presence of family members and avoiding the exchange of companions.	Talk to a doctor for the reintroduction of routine medications, pause in unnecessary medications or reduction of doses.
Use of nasoenteral tube	Headboard raised to 45° during diet administration; negotiate the acceptance of the diet orally to prevent the use of the nasoenteral tube; request evaluation by speech therapy and nutritionist.	Prioritize the return to oral intake within 24 hours postoperative.
Hypovolemic shock	Identify weak and filiform pulse, cold, moist, pale or cyanotic skin, agitation associated or not with hypotension, reduction of urinary output or level of consciousness; control vital signs.	Volume replacement should be judicious due to the risk of pulmonary congestion. Preferably, use 0.9% saline solution due to the risk of dilutional hyponatremia, which may lead to delirium.
Reduction in the volume of diuresis	Stimulate water intake; monitoring of the water balance that should not be maintained positive.	Volume replacement with caution. The immediate postoperative period may present water retention due to some anesthetics. Water balance tends to balance during hospitalization.
Ache	Use analgesic ladder: first option - analgesics and anti-inflammatory drugs, second option - weak opioids, and third option - strong opioids. When frequently administering the third option, look at the importance of fluid and fiber intake; administer, preferably, intravenous analgesics in the immediate postoperative period and subcutaneous analgesics in the mediate; Monitor respiratory function when administering strong opioids.	Signs of pain in the elderly with difficulty in communication can be perceived by hypertensive escape and tachycardia. After initial analgesia, pain should be reassessed within 30 minutes.
Fever	Investigate possible causes (phlebitis, bladder catheter, dehydration, neuroleptics or antidepressants); use cooling techniques.	Consider temperature above 37.8° or variation of 1.3° with the elderly's baseline.
Venous thromboembolism	Prevent by hydration and early ambulation; avoid the use of rollers under the knee, as they can compress blood vessels; assess pain and edema in the limb and sweating.	Evaluate whether there is a prescription for prophylactic anticoagulant.
Immobility or Immobility Syndrome	Enable the elderly to perform actions, such as hygiene or food; guide the elderly and family members to the relevance of early movement; talk with a companion so that he/she allows maximum independence of the elderly, maintaining vigilance for possible aids.	Even in the immobilization for short periods, there are consequences in the elderly: delirium, respiratory failure, sleep-wake inversion, depression, sarcopenia, mycosis, PI, osteoporosis, water retention, VTE, RI or UTIs, urinary incontinence, constipation, reduced insulin response, erythropoiesis and vitamin D synthesis, elimination of elements such as Na+, Ca+, Mg+ and K+.

Table 2. Mobilization of the elderly after correction of trochanteric fracture due to a fall.

Mobilization	Mobilization guidance
Bedpan use	Place it on the opposite side of the surgery, asking the elderly to level up the hip flexing and supporting the unoperated leg. The elderly can hold the bed guard on the opposite side of the surgery or the trapeze.
Diaper change	Lateralize the patient to the opposite side of the surgery. Extend sheets and diapers as much as possible to make lateralization to the operated side minimal.

Research & Reviews: Journal of Nursing & Health Sciences

First day postoperative	The elderly can sit on the bed with their feet out of bed, without placing a load on the operated limb.
	On this day, the bath takes place in the bed.
	The elderly should be encouraged to do hygiene wherever they reach.
	To sit on the bed, mobilization must start from the operated side.
	Rotate the elderly person's body to the side of the bed in two people, one of whom may be the companion. One person holds the trunk of the elderly and another the lower limbs, placing the operated limb to the side of the bed first and then the other leg.
	Drag the body forward until the knee joints are flexed on the side of the bed. The knee flexion of the operated limb should occur slowly in order to minimize pain.
	The length of time the elderly person is seated depends on tolerance, it is recommended for a minimum of 30 minutes.
	Place pillows and blankets for back support while sitting.
Second day postoperative	Request that the elderly move their legs, doing flexion and extension (two cycles of 10 repetitions) of the knees and dorsiflexion of the ankles.
	The bath takes place in the shower with the use of the bath chair and the elderly person must get out of bed and sit in the armchair.
	To help him/her carry out this mobilization, he/she must first sit on the bed according to the previous guidelines.
	Lower the level of the electronic bed until he/she touches the feet on the floor.
	To get up, the elderly person must put the weight on the opposite leg from that of the surgery, supporting their arms on the walker or the professional.
	When the elderly person gets up, ask him/her about feeling dizzy and if he/she is able to transfer to the chair (he/she must be beside the bed).
	If necessary, the walker can be used, taking the operated leg first and then, resting on the arms, taking the opposite leg into the walker, with no load on the operated limb.
	To sit in the armchair or bath chair, allow the elderly person to lean the legs against the chair to feel it. He/she leans on the clamps, extending the operated leg. If necessary, assist him/her by holding under the arms and positioning him/herself behind the armchair or chair.
Raising the elderly	The bath chair must be locked or the companion must hold it.
	The elderly person needs to lean on the armchairs of the armchair or bath chair, placing the weight of the body on the non-operated leg.
Repositioning the elderly in the supine position	Leave the walker in front of him/her and then push to get up. At this moment, the elderly person assures him/herself in the device, returning to the bed, which must be approached to the armchair in order to keep the middle of the bed beside the armchair.
	Start by sitting the patient on the bed, as described.
	Rotating the body into the bed, the elderly person puts the non-operated leg up, supports the bed and helps the professional to propel him/her back and to half of the bed.
	The companion can help to lift the operated leg and onto the bed.
Third postoperative day	After, guide the muscular contraction of the thigh of the operated limb, this will assist in the maintenance of muscle strength during the period when no load can be applied.
	He/She can walk with partial load on the operated limb. This requires the use of a walker. Possible restrictions must be described in the medical prescription.
	The elderly person should start walking by moving the walker up to the toe line of the non-operated leg, concomitantly taking the operated limb. At this time, the load remains on the member contrary to the procedure.
Lateral decubitus	Then, put support and strength on the arms and step into the walker with the opposite leg to the operated one. Thus, the load is divided between upper and lower limbs.
	The lateralization should occur to the opposite side of the hip surgery.
Special cares	Place a pillow or blanket between the legs in order to provide greater comfort, avoiding pain.
	To guide the elderly and their companion on the need to use a walker after hospital discharge.
	Check the need to activate social assistance.
	Advise not to sleep on the operated side. Lie in dorsal or lateral decubitus for the opposite of the surgery.
	The total load on the operated leg will be released by the traumatology doctor in outpatient care or during hospitalization. This conduct is individualized, and occurs according to the bone consolidation of each elderly person. Therefore, before medical guidance, walking should take place with partial load and always with the use of a walker.
	Watch for signs of reduced peripheral perfusion, hemorrhage, edema and pain in the operated limb.

Source: Elaborated by the authors, Brazil, 2018.

of elderly hip post-surgery, level of dependence and reduction of falls. Interdisciplinary performance in the postoperative period presents strong evidence for functional results, prevention of falls through rehabilitation and planning of hospital discharge and improvement in social relations ^[18]. The mobilization of the elderly depends on his/her physical condition, directly influenced by the waiting time for surgery, with a tendency to reduce the hospital stay time and mortality by six months when surgery is performed within 48 hours of hospitalization ^[19]. However, the intervals between fracture and surgery are usually long, between 8.1 and 9.2 days of waiting. Elderly who wait this time for fracture treatment have a complication rate of 57% in the postoperative period, mortality of 7.7% in the first 30 days and 30.8% in one year. Postoperative complications include 18.7% hydro electrolytic

Table 3. Mobilization of the elderly after hip arthroplasty due to a fall.

Mobilization	Mobilization guidance
Bedpan use	<p>Always place the bedpan on the non-operated side.</p> <p>Keep the headboard elevated at 45°.</p> <p>Ask the elderly to flex the non-operated leg by supporting the foot on the bed and, if necessary, hold the bed guard with the hand on the side contrary to the procedure.</p> <p>Use pillows between the knees during lateralization to avoid adduction.</p>
Body hygiene	<p>Encourage the patient to do the hygiene wherever he/she can.</p> <p>The hygiene of the operated limb is performed by nursing so that the patient does not exceed 90° when sitting.</p> <p>Keep the headboard slightly elevated due to the risk of hip hyperextension.</p> <p>Lateralize chest, hips and legs in a unique way, keeping the abduction cushion, when changing sheets.</p>
Diaper change	<p>When lateralizing to the opposite side of the surgery, the maximum length of the sheet and diaper should be placed, in order to reduce the need for total lateralization over the hip arthroplasty.</p> <p>Use a pillow between the knees during the procedure to avoid adduction.</p>
First day postoperative	<p>The bath takes place in the bed. The removal of the delayed bladder probe should occur on this day. After 24 hours of the procedure, the abductor cushion is removed.</p> <p>He/She can sit on the bed with the feet out, start mobilizing to the operated side.</p> <p>Rotating the elderly person's body in two people, one of them can be the companion.</p> <p>One person holds the lower limbs and the other, the torso, rotating the elderly person's body to the side of the bed, without allowing the knees to approach.</p> <p>Keep the torso slightly tilted back.</p> <p>Drag the elderly person's body forward until the knee joints are flexed on the side of the bed.</p> <p>If there is an abductor cushion, keep it and hold the device while rotating your legs.</p> <p>The knee flexion of the operated limb must be slow and according to tolerance.</p> <p>You can remove the abductor pad after flexing the knees, so that the elderly person does flexion and extension of the knees and dorsiflexion of the ankles (two cycles of ten repetitions), as long as the abduction is maintained.</p> <p>The length of time the elderly person is seated depends on his/her tolerance, a minimum of 30 minutes is recommended.</p> <p>Place pillows and blankets as support on your back without exceeding 90° of hip flexion.</p>
Repositioning the elderly in the supine position	<p>Replace the abductor cushion if the elderly cannot help with mobilization.</p> <p>One person holds the lower limbs and the other the trunk, turning the elderly person into the bed.</p> <p>If the elderly manages to assist in the movement, he/she can put the non-operated leg up and support it on the bed, assisting in the force to take him/her back and to the half of the bed. In this case, hold the limb of the surgery, without bringing the knees closer, and raise it over the bed.</p>
Second day postoperative	<p>Assist the elderly to get out of bed, sit in the armchair and perform the body hygiene of sprinkling in the bath chair. To use such a device, the elderly must sit on the bed, first, according to the previous guidelines.</p> <p>Lower the bed level until the elderly person touches the feet on the floor.</p> <p>To get up, the elderly person must put the weight on the opposite leg from that of the surgery, supporting their arms on the walker or the professional.</p> <p>When the elderly person gets up, ask him/her about feeling dizzy and if he/she is able to transfer to the chair (he must be beside the bed).</p> <p>Place a pillow between the elderly person's knees to remind him/her of the abduction.</p> <p>The elderly person should start walking by moving the walker up to the toe line of the non-operated leg, concomitantly taking the operated limb. At this time, the load remains on the member contrary to the procedure.</p> <p>Then, put support and strength on the arms and step into the walker with the opposite leg to the operated one, thus dividing the load between upper and lower limbs.</p>
Sit in armchair or bath chair	<p>Let the elderly lean their legs against the armchair or chair, to feel them.</p> <p>He/She leans on the armbands, extending the operated leg and keeping the body tilted backwards, never forward. If necessary, assist him/her by holding under his arms, positioning yourself behind the armchair or chair.</p> <p>The bath chair must be locked or the companion must hold it.</p>
Raising the elderly	<p>Support him/herself on the armbands, placing the body weight on the non-operated leg, avoiding leaning forward.</p> <p>Leave the walker in front of him/her and then push to get up. At this moment, the elderly person assures him/herself in the device, returning to the bed, which must be approached to the armchair in order to keep the middle of the bed beside the armchair.</p> <p>The elderly needs to keep their weight on the opposite leg from that of the surgery.</p> <p>To reposition the elderly in bed, follow the previous guidelines.</p>

Third day postoperative	<p>He/She can walk with partial load on the operated limb using the walker.</p> <p>The full load is allowed, if tolerated. However, elderly people who have PFF by falls, generally, cannot walk in the postoperative period without support from the walker. This device provides security by compensating for imbalances and preventing another fall. Therefore, it is recommended to use it during recovery.</p> <p>If there is a need to maintain partial load on the operated limb, the traumatology team must specify it in the medical prescription.</p>
Special cares	<p>Use raised toilet seat.</p> <p>If necessary, adapt armchairs with a pillow and blanket to ensure that the hips remain higher than the knees.</p> <p>Use a pillow between the knees up to six weeks after the surgery to sleep or alternate decubitus to the non-operated or dorsal side.</p> <p>Avoid lying on the operated side.</p> <p>Avoid hip flexion greater than 90° in relation to the chair for up to six months after surgery. Some routine care avoids this flexion, such as: do not put on socks and shoes alone without adaptation devices (long handle), do not cross the legs or feet, avoid low chairs/seats, when walking or lying down, maintain the hip alignment, avoiding adduction and internal or external rotation of the operated limb,</p> <p>The bath chair must have clamps for support in sitting and standing.</p> <p>Driving vehicles is not permitted until four to six weeks after surgery.</p> <p>Do not rotate the trunk to pick up objects that are behind the body.</p> <p>Avoid high impact exercises.</p> <p>When leaving the bed for the first time, prevent adduction, internal or external rotation of the limb, hip flexion greater than 90° and total weight support.</p> <p>Care for total and partial arthroplasties is common.</p> <p>Watch for signs of reduced peripheral perfusion, bleeding, edema and pain.</p> <p>Guide on care for the prevention of new falls.</p> <p>Do not use a crane to remove the elderly from the bed due to greater flexion of 90° of the hip joint, which can dislodge the arthroplasty.</p> <p>This protocol applies to primary hip arthroplasties. Therefore, the evolution of care for the elderly who performed a secondary prosthesis is discussed with the surgeon.</p>

Source: Prepared by the authors, Brazil, 2020.

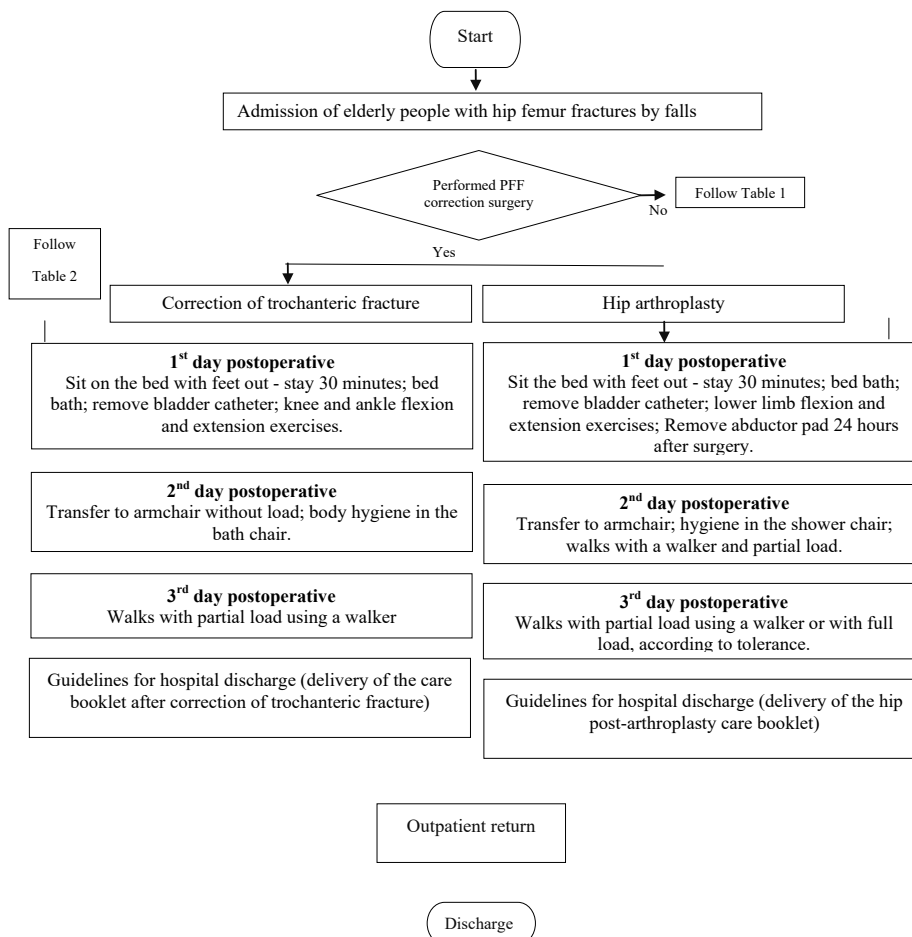


Figure 2. Flowchart for nursing care for the elderly in the postoperative period for correcting hip fractures due to falls.

disorder, 14.7% delirium, 11.5% urinary tract infection and 11% pneumonia ^[20]. Such complications, although not associated in research, are also consequences of immobility. The hip fracture post-surgery complications in the elderly have harmful effects on the musculoskeletal system such as: inability to locomotion, muscle atrophy, bone fragility, immobility, new falls and fractures, joint degeneration and osteoporosis accentuation ^[21]. Teamwork and inter professional collaboration are important in the health field. This kind of approach can be useful to deal and solve problems in the area, taking into account the function of each health professional, who provides patient care, resulting in a better assistance ^[22]. Moreover, the inter professional work can improve the use of elderly care protocols and gather teams to prepare the care plan for these patients. Therefore, strategies for the care of the elderly with hip fractures, linked to validated clinical tools and protocols, allow effective and efficient results and reduce mortality, hospitalization time, postoperative complications and hospitalization costs ^[22]. Mobilization is vital for the independence of the elderly and the recovery of life quality. The lack of early mobilization, influenced by the clinical worsening of the elderly during hospitalization, leads to immobility; by persisting in the postoperative period of fracture correction reduces the functionality of the elderly and causes several complications, exposed in **Table 1**. Thus, the relevance of the professionals' understanding of the complexity that involves the mobilization that precedes routine nursing care, strengthened with institutional protocol, is reiterated. Hospitalized elderly who corrected hip fracture by fall are afraid of mobilization and doubts about movement restriction, obtaining a walker, the necessary changes in residence and the prevention of new falls ^[17]. The recovery of moving ability after femoral neck, intertrochanteric or sub trochanteric fractures can occur up to one year after surgery, but daily activities are determined in four months. The pre-fracture functional and cognitive status were important determinants in a functional recovery. However, neither the fracture pattern or its specific treatment were predictive of any functional outcome. The same study showed that, regardless of the type of fracture or surgical treatment used, 57% of patients did not recover the pre-fracture functional level and the ability to ambulation [17]. The elderly hospitalized in the postoperative period and their families await guidance from the professionals for hospital discharge, thus, the instructions can start during hospitalization, when the patient presents physiological and psychosocial conditions, being performed early in the preparation of discharge. Thus, it is possible to understand the information and elucidate doubts by the nurse, who predicts aggravating factors in surgical recovery ^[22]. It is relevant and necessary to improve the process of attending situations that have already occurred with the patient. Finally, surveys based on experiences of managers, who participated in the implementation of quality improvement projects in an assisted living facility, show that the implementation of projects to improve the quality of care is challenging. It depends on the continuous commitment assumed by professionals to improve the service, use of standardized communication methods with team members, patient and caregivers and feedback about the strategies to ensure the success of the initiatives ^[23].

CONCLUSION

The protocol developed includes geriatric considerations for the care of the elderly in the postoperative period, mobilization of the elderly after correction of a trochanteric fracture and hip by fall post-arthroplasty. This knowledge qualifies and promotes safety to nursing care of the elderly in the post-correction of hip fracture by fall. The elaboration of the protocol through the convergence between research and care facilitated its applicability in nursing practice, as well as was based on scientific evidence on the care of people who corrected hip fracture, being fundamental for the design of interventions in the postoperative period, facilitating comprehensive care for the elderly, related to clinic or rehabilitation. The convergent care research allowed improvement of the conditions for change, reflecting in feasible interventions in the reality of nursing care. The experience of the nurses participating in the direct care to the elderly in the postoperative period was essential for the production of data and development of the protocol, aimed at the needs of the surgical unit, making it a practical instrument that provides specific and standardized subsidies for the care and transition of home care. The high incidence of fractures resulted from falls, often described in the literature, emerges from the need for nursing care for the elderly who corrected fracture by falls based on geriatric and gerontological knowledge. Thus, the present study contributes with scientific evidence, aiming at discussing new practices directed to nursing care that encourages mobilizing the elderly in the postoperative period, transgressing the culture of rest to avoid complications resulting from immobility.

REFERENCES

1. Bolding DJ, Corman E. Falls in the geriatric patient. *Clin Geriatr Med*. 2019;35: 115–126.
2. Paixão Junior CM, Heckman MF. Disorders of posture gait and falls. In: Freitas EV, Py L. *Treatise on Geriatrics and Gerontology*. 4th edn. Rio de Janeiro: Guanabara Koogan, cap. 2017; 94: p.2339-2364.
3. Macedo GG, et al. Femoral fractures in the elderly: A public health problem in Brazil. *REAC*. 2019; 6: e1112.
4. Galia CR, et al. Total hip arthroplasty: A still evolving technique. *Rev Bras Ortop*. 2017; 52:521-527.
5. Ministry of Health. Joint Ordinance No. 21, of September 24, 2018. Approves the Brazilian Guidelines for the Treatment of Femoral Neck Fractures in the Elderly. Brasília (Brazil): Ministry of Health; 2018.
6. Edelmuth SVCL, et al. Comorbidities, clinical interurrences, and factors associated with mortality in elderly patients admitted for a hip fracture. *Rev Bras Ortop*. 2018;53:543-551
7. Alcantara C, et al. Associated factors with hospitalization outcomes of elderly submitted to femur fracture correction. *Cogitareenferm*. 2020;25:e64986.

Research & Reviews: Journal of Nursing & Health Sciences

8. Sá GGM, et al. Functional independence of elderly patients who fell: A follow-up study. *Rev Bras Enferm.*2019;72:1715-1722.
9. Catunda HLO, et al. Methodological approach in nursing research for constructing and validating protocols. *Text & context Enfer.* 2017; 26: e00650016.
10. Ministry of Health; Fall prevention protocol. National Patient Safety Program. (Brasília) Brazil: Ministry of Health; 2013.
11. Suriani CM. Development and implementation of a protocol to prevent the risk of falls in a public hospital in the southern region of the city of São Paulo. Master's Dissertation, University of Santo Amaro, São Paulo, Brazil, 2017.
12. Baixinho CRSL, et al. Falls in long-term care institutions for elderly people: protocol validation. *Rev Bras Enferm.*2017; 70:740-746.
13. Tong A, et al. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care.* 2007;19:349-357.
14. Trentini M, et al. Convergent Care Research - design that provokes changes in health practices. 3rd ed. Porto Alegre: Moriá. 2014;176 p.
15. Santos VH. Pre and postoperative in the elderly. In: Freitas EV, Py L. *Treatise on Geriatrics and Gerontology.* 4th ed. Rio de Janeiro: Guanabara Koogan, chap. 2017;98 :1084-1000.
16. Jacobi CS, et al. Demands of hospitalized older adults after correction of proximal femur fracture by fall. *Rev enferm UERJ.* 2019;(27):e34460.
17. Mariconda M, et al. Factors Predicting Mobility and the Change in Activities of Daily Living After Hip Fracture: A 1-Year Prospective Cohort Study. *J Orthop Trauma.*2016;30: 71-77.
18. Ribeiro REV. Uso de dynamic hip screw - DHS – em fraturas instáveis do fêmur proximal: avaliação em fadiga. Dissertação de Mestrado, Universidade Federal do Rio Grande do Sul, Brasil, 2017.
19. Barros AAG, et al. Efficacy evaluation of a protocol for safe hip surgery (total hi arthroplasty). *Rev. Bras Ortop.* 2017; 52:29-33.
20. Pinto IP, et al. Does early surgical fixation of hip fracture in elderly patients affect mortality? *Rev Bras Ortop.* 2019;54:392–405.
21. Barbosa TA, et al. Perioperative complications and mortality in elderly patients following surgery for femoral fracture: prospective observational study. *Rev Bras Anesthesiol.* 2019;69:569-579.
22. Singh J, Salisbury H. Attitudes and Perceptions of Non-Clinical Health Care Students Towards Interprofessional Learning. *Health & Inter-professional Practice.* 2019; 3(4):eP1179
23. Sousa AAS, et al. Comorbidities and risks to mortality in the elderly after hip fracture surgery: an integrative literature review. *REAS.* 2020; Spl (41): 1-12.
24. Farias FID, et al. Evaluation of the effectiveness of a care program for elderly patients with hip fractures: a network strategy. *Rev Bras Geriatr Gerontol.* 2017;20:702-712.
25. Pereira S, et al. Discharge planning in post-operative of elderly: A multiple cases study. *Rev Pesqui. Univ Fed Estado Rio J Online.* 2016;8:4949-4955.
26. Singh J, Wiese A, Sillerud B. Using Phenomenological Hermeneutics to Understand the Experiences of Managers Working with Quality Improvement Strategies in an Assisted Living Facility. *Healthcare* 2019; 7: 87.