

Exploration of the Application of Multidisciplinary Collaboration in the Day Surgery Ward

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Abstract: To improve the quality and efficiency of medical services in the day-surgery ward, many fields must work together. The main contents of this paper are the application of multidisciplinary collaboration in the day-surgery ward, the construction of the multidisciplinary collaboration model, and the role of the multidisciplinary collaboration model in pre-operative assessment, intraoperative cooperation and postoperative management. Based on the above research, it is hoped that multidisciplinary cooperation will improve the efficiency of the process, reduce the risk of complications, shorten the length of hospitalisation, and enhance patient satisfaction. Research on the application of multidisciplinary collaboration has provided an excellent reference for the effective operation of the day-surgery ward and continuously improved the quality of medical service.

Keywords: multidisciplinary collaboration; day surgery ward; application exploration

1. Introduction

With the progress of medical technology, day surgery has been developed into an efficient type of medical model. Day surgery has the advantages of a short hospital stay and low cost, but it also has high demands on the level of collaboration among the medical team. Multidisciplinary cooperation is the combination of professional knowledge and skills from all areas to provide people with all-round, personalised medical services. Multi-disciplinary cooperation in the implementation of day surgery can improve surgical procedures, guarantee medical safety and enhance the quality of life for patients. Research on the application of multidisciplinary collaboration in the day surgery ward is still in its infancy. This paper will introduce the applications and results of the research in clinical practice.

2. Multi-disciplinary Collaboration Model Construction

2.1 Team Member Composition

The multidisciplinary collaboration team in the day surgery ward is led by the primary medical needs, gathers various professionals, and builds a closed-loop collaboration system. The main staff are surgeons, anesthesiologists, special nurses, clinical pharmacists, rehabilitation therapists and medical management staff. Some very serious cases are handled by radiologists and laboratory technicians. All team members are qualified and have been trained in day surgery collaboration. Surgeons are responsible for the operation and monitoring of patients; anesthesiologists are in charge of the safety of general anaesthesia and pain management; specialised nurses provide perioperative care and health education; clinical pharmacists optimise medication use and guide it; rehabilitation therapists create early rehabilitation plans; and managers organise the process and ensure quality control. Each person has their own responsibilities and works together to provide the necessary human resources support for the smooth running of day surgery[1].

2.2 Communication and Coordination Mechanism

Establish a regular and organised communication and coordination channel to break down departmental barriers and promote free flow of information. Build a dual-platform system of offline regular meetings and online real-time communication, hold preoperative case discussions every day, have the lead surgeon as the group leader, involve personnel from all departments, and jointly consider the patient's diagnosis and possible problems; use the hospital information system to create a special communication module for timely sharing of patients' medical records, test results and treatment plans, so that members of different disciplines are always aware of changes in the patient's health[2]. Clarify the rules of communication and the time limit for feedback; if there are any disputes or emergencies in the course of treatment, promptly set up a rapid-response consultation channel to agree on how to handle the problem quickly, avoid communication delays that may affect treatment, and improve the speed and rationality of cooperation and decision-making.

2.3 Division of Responsibilities Definition

Based on the whole process of day surgery, refine the division of responsibilities for each discipline member and establish a clear system of authority and responsibility with orderly links. Surgeons choose the patients, plan the operation, conduct the surgery, and observe the patients after surgery. Anesthesiologists select an appropriate type of anaesthesia before the operation, administer general anaesthesia during the operation, regulate vital signs, control post-operative pain, etc. Specialised nurses will prepare the patients for surgery, work closely with the surgical team, take care of the patients after surgery, provide health management education, and so on. Clinical pharmacists will audit the medications that patients are taking to prevent drug-drug interactions and other adverse drug reactions. Rehabilitation therapists will develop personalised rehabilitation plans based on the specific health conditions of different patients and provide early post-operative rehabilitation training. Managers will organise all links in this process, coordinate relevant resources, ensure the quality of service, and so on.

3. Preoperative multidisciplinary evaluation

3.1 Patient Physical Condition Assessment

Before surgery, all relevant doctors will examine the patient's health condition, mental state and other diseases to ensure the safety of the operation. Surgeons will decide whether a person needs surgery based on the reasons for surgery and the severity of the illness. Anesthesiologists will examine all functions of the heart, lungs, liver and kidneys, blood clotting ability, etc., to determine if there are any risks associated with general anaesthesia. Specialised nurses will find out if there are any daily life problems for the patient before surgery, such as anxiety or fear, and clinical pharmacists will check the patient's current medications and known allergies to avoid drug-drug interactions or other adverse drug reactions[3]. The members of all disciplines will summarize the evaluation results and compile a general evaluation report; if the patient's physical condition is not suitable, surgery will be suspended, and a special adjustment plan will be developed until the patient meets the conditions for continued observation.

3.2 Surgical Risk Evaluation

Given that day surgery is being performed, several experts will be consulted to precisely determine the risks of joint problems, and then a system to prevent and control these risks will be established. According to various factors, such as age and other illnesses of patients, type of operation, kind of anaesthesia, etc., the risks at the surgical site, during anaesthesia, and after surgery are all comprehensively analysed. Assess the risks of surgery for the patient, such as surgical difficulty, intraoperative bleeding and tissue injury; determine the risks of anaesthesia induction and maintenance during surgery and anaesthesia awakening. All departments will cooperate to find out why there is a risk, determine the severity of this risk, and take corresponding preventive measures and corrective actions in high-risk areas[4]. At the same time, the previous data from similar surgical cases will also be used to find patterns in the occurrence of risks, improve the prevention of risks, and reduce surgical risks to ensure the perioperative safety of patients.

3.3 Individualised Plan Construction

Based on the results of the preoperative general assessment, a personalised treatment plan will be developed by the multidisciplinary team. It should achieve the goal of surgery and ensure the patient recovers well. Surgeons decide on the type of operation and how much to cut based on the health and physical condition of the patient to optimize the course of surgery; Anesthesiologists develop individualised anaesthesia plans according to how well the patient can be kept under general anaesthesia, select suitable anaesthetic drugs and methods, and consider the expected effects and speed of recovery after surgery; Rehabilitation therapists plan ahead for preoperative rehabilitation guidance and early postoperative rehabilitation, and specialised nurses prepare relevant nursing plans to clarify the main points of preoperative preparation, intraoperative cooperation details, and postoperative care. At the beginning of plan development, we will consider the patients' and their families' opinions to ensure that the resulting medical plan meets the real needs of the patients and is safe and comfortable for them.

4. Intraoperative Multidisciplinary Cooperation

4.1 Anesthesia and Surgery Cooperation

Strengthen anaesthesia and work closely with the surgical team during the operation to ensure the smooth running of the surgery. Before surgery, the anesthesiologist will get to know the patient, put them under general anaesthesia, constantly change the depth of anaesthesia according to any changes in the patient or progress of surgery, monitor all signs of life, and

handle any sudden health problems that may occur during anaesthesia. The surgeon will carry out the operation accurately, change the speed of operation as needed, immediately inform the anesthesiologist of any abnormal signs during surgery, and adjust the surgical plan based on the level of anaesthesia for the patient. Surgical nurses will prepare the necessary equipment in advance, help the surgeon during the operation, and promptly report any changes in the patient's condition to the anesthesiologist[5]. Both sides communicate in real time to address any problems that occur during the operation promptly, keep abreast of the situation of anaesthesia and surgery, reduce the duration of the operation, and improve the efficiency of surgery.

4.2 Handling of Emergencies

Establish an intraoperative multidisciplinary collaboration emergency response system to improve the speed of response to unexpected circumstances. In the event of unforeseen circumstances, such as serious bleeding, anesthesia accidents, and cardiovascular or cerebrovascular accidents during surgery, have prepared a general emergency response plan and specified the responsibilities of all departments in case of an emergency. Anesthesiologists will maintain the patient's physiological function and carry out rescue operations if necessary; surgeons will quickly stop bleeding, suture, etc., perform emergency surgery promptly, and complete the operation; special nurses will assist in emergency cooperation, provide emergency supplies to the doctor, and record the changes in the patient's condition; clinical pharmacists will guide the administration of emergency drugs to ensure the safety and effectiveness of such drugs. All members of the emergency team should cooperate, respond promptly and in accordance with the above provisions, to minimise harm to the patient in an emergency.

4.3 Information Sharing and Feedback

In the course of operation, there should be continuous communication and prompt feedback among all departments to make timely and accurate diagnoses and treatment decisions. Using the operating room information system, all the relevant data at that moment for a particular patient, such as their vital signs, the progress of the operation, anesthesia conditions and drugs administered, can be obtained promptly, and doctors from all specialisations can view this information to be better informed about the patient during surgery. Anesthesiologists promptly informed the surgeons of changes in the patient's vital signs, and at the same time, the surgeons informed the anesthesiologists about the progress of the surgery. Therefore, the two sides could modify the treatment plans in time. Surgical nurses immediately informed the corresponding people that surgical instruments and other materials needed to be obtained for surgery. Be aware of any other circumstances that may arise during the operation, and inform all relevant departments immediately; this information will be used to adjust the course of treatment accordingly, and the whole process of the operation can be monitored and traced.

5. Postoperative Multidisciplinary Management

5.1 Rehabilitation Guidance

After the operation, many disciplines will work together to help the patients recover more quickly. According to the type of operation and the health of the patient, rehabilitation therapists have created individualised early rehabilitation plans with specific goals, such as post-operative turning, getting up to do daily activities and changes in diet during recovery, and provided staged training instruction. Specialist nurses constantly monitored the health of the post-operative patient, helped him learn rehabilitation exercises, informed him of any precautions for rehabilitation, and promptly corrected any errors in the exercise methods. Surgeons often checked on the patient after surgery and changed the rehabilitation plan according to any changes in the patient's health. Clinical pharmacists taught the patient when to take the necessary after-surgery drugs and how they would affect rehabilitation. With the help of various departments, patients have gained more confidence in their rehabilitation, reduced the duration of treatment, and achieved better results from the therapy.

5.2 Complication Monitoring

A multi-disciplinary joint monitoring system for postoperative complications has been established to help solve the problems early on and deal with them. Surgeons have been observing the condition of the wound, pain, changes in the colour of the drainage fluid at the site, and other signs of complications after surgery. Anesthesiologists observed how well the patient was recovering from general anaesthesia after surgery and checked for any other problems. Periodically, the specialist nurse will take the patient's vital signs, such as temperature, blood pressure and heart rate, notice any changes in the patient's mood, and promptly inform the doctor of any abnormalities. Clinicians have monitored the drugs in patients and discovered some adverse drug reactions. The groups in all departments set up observation books to record observations. If there are any abnormal situations, we have contacted the research group for consultation and taken appropriate measures to prevent the problem from worsening and ensure the safety of the patient after surgery.

6. Conclusion

Multidisciplinary cooperation is a way to improve the quality and efficiency of medical services in the day-surgery ward. Build a scientific cooperation model, strengthen cooperation at all levels, evaluate the results, and improve the quality of medical services for the public. In the future, we need to continuously strengthen multidisciplinary cooperation, improve the mechanism and rules of collaboration, enhance staff training and exchange, so that multidisciplinary cooperation can be widely used in the day-surgery ward to provide high-quality and efficient medical services for more patients and promote the development of the day-surgery field.

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