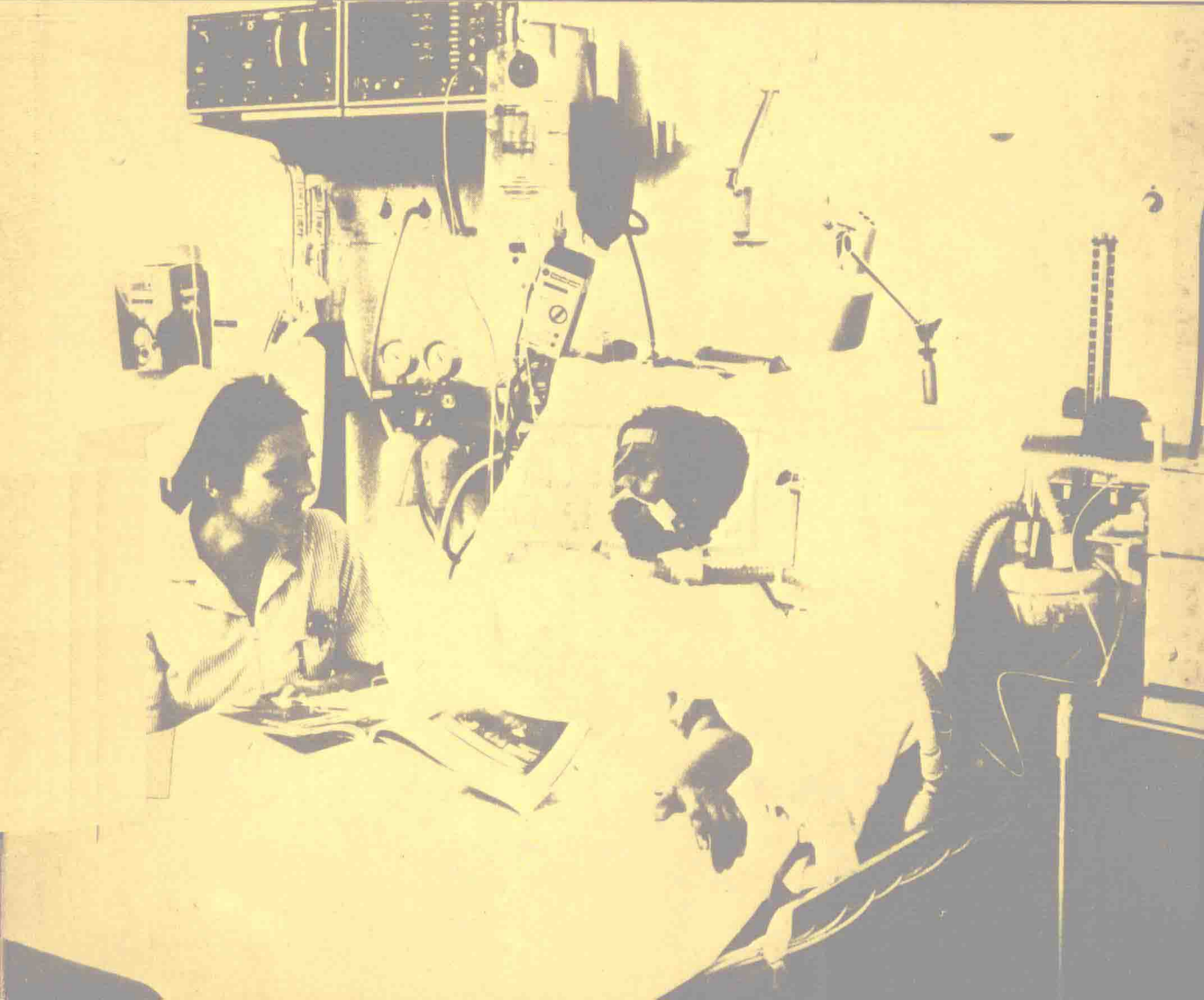


Churchill Livingstone 

HIGH DEPENDENCY NURSING CARE

EDITED BY

David O'Brien / Shirley Alexander



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Preface

This book aims to discuss and explore a series of key issues in high dependency nursing care, using the holistic, problem-solving approach of the nursing process as the basic philosophy. Emphasis has been placed upon the practical aspects of patient care and the reader is encouraged to review the objectives at the beginning of each chapter and whenever possible complete the problem-solving exercise at the end of each chapter.

The book is primarily intended for qualified nurses in high dependency units and nurses in training who have been allocated to these units, as well as providing a reference for nurse teachers involved in teaching nurses in these specialities. However, many of the chapters, such as those considering communication, pain, stress, rehabilitation and the nursing process itself, have a more general application and may well appeal to nurses working in other areas.

Other issues addressed, including the economics of high dependency care and ethical considerations, are not often given major sections in a textbook such as this, but the problems of resource allocation, and the ethical debates underpinning patient care in such units, have major implications for nursing. As the role of the nurse continues to expand in these units, it is imperative that her knowledge base

of these fundamental issues expands to meet the challenge of contemporary high dependency care.

The chapters on sensory deprivation and the metabolic responses to trauma reflect the expanding body of knowledge in these disciplines and its application for patient care.

A central theme of the book is the relationship of theory to nursing practice. As long ago as 1972, the Briggs Report emphasised the need for nursing to become a research-based profession. It is hoped that this book will help nurses to appreciate the research base of professional practice and stimulate them to become constructively critical of prevailing practices.

The growth of any discipline is based upon systematic reappraisal of current practice in light of contemporary knowledge. The purpose of this reappraisal in nursing is ultimately for the enhancement of patient care. Such a process must, of course, be continuous and is dependent upon an active commitment to professional development by nurses in all disciplines. We trust this book will prove a valuable asset for nurses engaged in this process in high dependency settings.

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S.A.

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AIM

- to introduce the reader to the basic philosophy of holistic nursing care in high dependency units and to trace briefly the historic context of such units.

OBJECTIVES

- to understand what is meant by holistic nursing care
- to appreciate the changing role of the nurse in contemporary society
- to be able to outline some of the historic factors determining the evolution and growth of high dependency units
- to know the differences between traditional and research-based approaches to patient care
- to be aware of the staffing requirements of high dependency units, numerically and in relation to expertise and experience.

1

Introduction

David O'Brien

Shirley Alexander

DEFINITIONS OF HIGH DEPENDENCY NURSING CARE

For the purpose of this book high dependency nursing care is taken to mean the care required by critically ill or injured patients who require the services of specially trained nursing staff usually within the confines of a special unit.

The purpose of such care has been defined in the following ways:

The concentration of medical and nursing skills and technical expertise for the benefit of those in greatest need.

Stoddart (1975)

Put in a nutshell intensive care means giving better care and therapy to selected hospital patients, a few of whom could not survive without this organisation.

Sherwood Jones (1978)

Whilst no definition of any aspect of nursing care can ever be fully comprehensive, these two are useful in the delimiting the central concerns of nursing activities in high dependency units.

Patients admitted to such units embrace all age groups and present with a variety of diseases and injuries. These include myocardial infarction, severe burns, and other trauma, cerebral vascular accidents and gastrointestinal haemorrhage. In addition, patients may be transferred to such units following major surgery or when specialist

procedures are required, such as haemodialysis.

These units are '... designed for critically or seriously ill patients who are unable to communicate their needs or who require deliberate planned observations and highly skilled nursing care.... There is good evidence that the incidence of complications and mortality can be substantially reduced by providing optimal patient care in this prepared setting.' (Abdellah, 1976)

It is not usually appropriate to admit to these units, patients who are obviously dying, for although the mortality rate in some units is very high, it is usually expected that such patients have a chance of recovery even though on occasions that chance may be very slim.

In essence, the type of patient admitted to a high dependency unit usually fulfils one of the following criteria:

- a need for continuous assessment and detailed observation of physiological functioning, e.g. following severe head injury
- a need for highly specialised or technical care not possible in other care settings, e.g. patients requiring intermittent positive pressure ventilation
- a need for rapid and effective intervention in the event of a known complication, e.g. cardioversion following ventricular fibrillation in a patient suffering from a myocardial infarction
- highly disturbed patients who are a potential danger to themselves, other patients or health care professionals charged with their care.

HISTORICAL OVERVIEW

For a long time there has been specialist nursing and medical provision for patients suffering from various ailments. Patients suffering from highly infectious diseases were a constant challenge to health professionals until comparatively recently. The need for isolation and a stringent regard for barrier

nursing was imperative if other patients or the health professionals themselves were not to become infected.

With regard to high dependency nursing it is unfortunately true that the growth of the specialism was in part due to man's inhumanity to man during wars, especially the Second World War. All too frequently the needs of the injured exceeded the scarce resources of trained manpower and equipment. As a result urgent decisions had to be made regarding the utilization of these scarce resources, and the triage concept was developed to help make decisions that would save most lives. Casualties were placed in one of three categories: walking wounded, stretchered wounded and those who were dying, and it was found that concentrating resources on the first two groups resulted in the greatest saving of lives.

Nevertheless there was growing evidence that with adequate resources even very serious injuries could be successfully treated. The management and treatment of these serious injuries gave rise to the idea of progressive patient care. The patient progressed from a state of complete dependency upon highly trained doctors and nurses through to a phase of intermediate care and eventually to self care.

Following the Second World War a new pattern of mortality began to emerge in the young and middle aged. In children and young adults vaccination drastically reduced the mortality from infectious diseases. Accidents and violence have now become the major cause of mortality in these age groups whilst death from myocardial infarctions are assuming epidemic proportions in middle-aged adult males.

Since society values the health of all its members, especially the relatively young, it is not surprising that specialist units began to emerge from the 1950s to care for the severely injured patient and those suffering from myocardial infarctions.

It was considered that such units not only offered more comprehensive patient care for those who were critically ill or injured but that

the establishment of such units ensured the best utilization of medical and nursing staff skilled in the use of advanced medical technology.

PHILOSOPHY OF HIGH DEPENDENCY NURSING CARE

In many respects the philosophy of nursing care within a high dependency unit is identical to nursing care in any other branch of the discipline. Like nurses everywhere those caring for the critically ill or injured have a professional responsibility in ensuring the highest possible standards of care for their patients.

However high dependency nursing is different in several respects to other areas of nursing. Some differences of particular importance include:

- the need to make decisions quickly, accurately and independently
- the ability to be attentive to the minute detail of patient care over prolonged periods of time
- the need to have a specialist body of knowledge pertinent to the care of critically ill or injured patients
- the ability to respond quickly and effectively in a variety of emergency situations
- the ability to work effectively as a team member in a potentially stressful environment.

This list is by no means exhaustive but is designed to show some of the special attributes needed for nurses in high dependency nursing settings. Over the years the rapidly changing demands of this type of nursing has on occasions challenged the 'traditional' conception of the nurse's role and brought into sharp focus the emergent roles of nurses in contemporary society (see Table 1.1).

The nurse working in the high dependency unit is at the forefront of these newly emergent roles. She* frequently has to acquire knowledge and develop skills not expected of her

Table 1.1 Traditional and emergent nursing roles

Traditional nursing roles	Emergent nursing roles
Nurses should have their responsibilities clearly stated and they should not stray from these.	Nurses should be independent practitioners within broadly stated guidelines.
Medical aspects of patient care are the most important and nursing should be subservient to this discipline.	Nursing aspects of patient care are as important as any other.
Traditional and 'common sense' approaches to patient care have stood the test of time and should therefore form the basis of nursing care.	Nurses should scrutinise their practices and whenever possible base practice upon the results of research and not what has traditionally been done.
Effective nursing is best achieved by delegating specific tasks to individual nurses.	Effective nursing is best achieved assigning nurses to particular patients within the framework of holistic nursing care.
There is a diffusion of responsibility for nursing standards of patient care so that no single nurse is accountable.	Individual nurses accept professional responsibility for nursing standards of patient care and are held accountable.
Professional development and education is best left for others to determine.	Nurses should have an active concern with regard to their professional development and education.

colleagues in other nursing disciplines. Many of these skills are related to the management of technological aspects of patient care but she also needs to be attentive to the psychological and social needs of her patients.

Table 1.2 shows some of the pathophysiological and sociopsychological aspects of patient care in high dependency units.

It is the unique blend of pathophysiological and sociopsychological aspects of care for the critically ill or injured patient which determines the orientation and philosophy of high dependency nursing. Over the past decade, there has been a growing awareness that such a philosophy is best converted into practice by

* Throughout patients will usually be referred to as male and nurses as female for clarity, even though this may vary in reality.

Table 1.2 Aspects of patient care in high dependency units

Pathophysiological aspects	Sociopsychological aspects
Aetiology of disease and injury.	Social and psychological aspects in relation to the aetiology of disease and injury.
Physiological signs and symptoms.	Psychological reactions to sudden critical illness or injury.
Physical complications of disease and injury.	Effects of serious illness or injury upon his family and society.
Assessing, meeting and evaluating physiological needs.	Assessing, meeting and evaluating psychological and social needs.

the adoption of an holistic, problem-solving approach to care, as embodied in the nursing process. Throughout the remainder of this book the authors have attempted to meet the challenge of this approach to patient care.

STAFFING REQUIREMENTS

Safe nursing staff levels have been notoriously difficult to establish in any hospital ward or department. However the situation is particularly acute with respect to high dependency units where the nature of the patient's injury or illness demands a much higher than average nurse patient ratio. Moreover it is imperative that staffing levels are adequately maintained 24 hours a day, 7 days a week.

Stoddart (1975) argues that the success or failure of such units is entirely dependent upon the quality and motivation of medical and nursing staff. He recommends that there should be at least one trained nurse per patient at all times, day and night, and that adequate cover should be provided with the result that nursing staff requirements are four nurses per bed.

Whilst actual numbers of nursing staff are obviously very important the ever changing world of high dependency nursing also demands nurses who are highly trained and competent in all aspects of high dependency

patient care. In order to meet these needs a variety of excellent courses is available for trained nurses including the Joint Board of Clinical Nursing Studies Course 100 for nurses working in intensive care units.

However good a course it is, it will not be sufficient to meet all the education and training needs of a nurse during her career in a high dependency unit. This is dependent upon the individual nursing practitioner being motivated towards advanced professional development. It is only when a unit has a core of permanent, qualified nurses with this degree of motivation and expertise and adequate supportive staff that the optimal level of patient care can be achieved.

PROBLEM-SOLVING EXERCISE

During the past two decades high dependency units have become a common feature of nearly all large hospitals. As you have seen from this introductory chapter a variety of factors has been responsible for this growth.

Consider carefully the situation in your own hospital with regard to high dependency care provision. Identify the characteristics of the units according to the age groups they are designed for and the type of specialist care provided.

If you can, find out when these units were established and suggest some of the reasons which made them necessary. Within your own unit look carefully at approaches to patient care. Is the care provided the same as that provided in the general wards and departments of your hospital? If it is different, identify clearly what these differences are. It is likely that many of the differences you note will reflect the particular needs of patients in such units which in turn necessitates nursing staff with special skills.

Consider carefully the staffing of the unit in which you work. Do you think all nurses could work effectively in a high dependency unit? If not what special characteristics do you think a

nurse should have to work in such a unit? Discuss your answers with a nursing colleague — you may be surprised to find she considers other characteristics more important. See if you can observe the characteristics you have mentioned reflected in the staff in your unit.

Nursing, especially high dependency nursing, is rapidly reaching new frontiers and imposing new demands. In this chapter the traditional and emergent roles of the nurse were discussed. Reflect on the past 5 years of your career and identify any significant changes in your role. If you have not been nursing for 5

years ask a senior colleague to describe changes in her role over this period of time.

Think ahead another 5 years and speculate on how your nursing role is likely to change over that period of time. Remember in an advanced technological society like ours change escalates over time, so that the changes in the next 5 years will be much greater than those over the past 5 years. Can you suggest how nurses might be prepared for these changes and how this preparation may be of benefit to patient care?

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AIM

- to introduce the reader to the relevance and advantages of the nursing process in caring for high dependency patients.

OBJECTIVES

- to outline and discuss the nursing process, its purpose and development, and application to seriously ill patients
- to identify information necessary to plan nursing care, and appropriate methods for obtaining it, considering the relevance and feasibility of obtaining it at any particular time
- to identify from information obtained the main nursing problems/needs for nursing care, and set priorities
- to plan nursing care directed towards the problems identified, taking into account other professionals' treatment plans, and using a sound theoretical base where possible rather than just routine procedures
- to evaluate and report patients' progress in relation to care given
- to use a systematic, problem-preventing/problem-solving approach to planning care
- to consider and discuss alternative ways of documenting and updating nursing information
- to assist the reader to develop an ability to plan holistic nursing care, with recognition that physical and non-physical aspects of the patient are interdependent
- to discuss the need for flexibility according to circumstances while maintaining the principles of the nursing approach.

Pat Ashworth

2

The nursing process and high dependency nursing

What is the nursing process and why is it now considered an essential concept in the care of dependent patients? It is often effective when illustrating something to use an extreme example. Picture a patient in an intensive care unit lying in bed unable to move without disturbing the numerous tubes and wires attached to or emerging from his body. He feels strange and often uncomfortable sensations which increase or may become more painful as people appear, sometimes at frequent intervals to handle and/or insert things into his tissues, and he is unable to control his body functions. Strange machines bleep and hiss around him with an occasional buzz or bell ringing, and there are conversations about 'gases', 'electrolytes', 'sucking out', 'IVs', 'K down', or 'IG tube' and 'lines' which flow over him. His hearing, sight and comprehension may present distorted images and perhaps a sense of being an inanimate part of the machinery. From the medical point of view this is a haemodynamically unstable man with electrolyte imbalance and respiratory failure who needs monitoring and treatment to maintain and, if possible, restore the independence of his physiological functions. The patient's visitors see amidst all the strange surroundings a body lying under a sheet, and perhaps bearing little apparent resemblance to the warm, animated and maybe good-looking family member or friend whom they know and love, and on whom they may depend in

various ways. Each of these perspectives is important when planning nursing care, yet it often requires careful planning to make sure that all are taken into account.

The purpose of health care staff is to use all possible human and other resources for the benefit of such critically ill patients. This requires recognition of the patient as whole person with more than physical dimensions, with strengths, weaknesses and actual or potential support systems as he faces the present situation. It requires a view which incorporates as much as is relevant of the perspectives of the patient and his world, his family and social network, and medicine and pathophysiology. This holistic approach is required to some extent by a variety of health care staff, but it is most essential for nurses, since it is they who will spend most time in contact with the sick person during his acute illness and therefore may have a crucial effect on his well-being and even survival. Some of the special skills of a nurse lie in her ability to recognise the person as he was when well within the patient she cares for, to identify how best she can help to maintain those functions which are healthy, substitute for those which are absent or insufficient, and assist towards normal those which are abnormal or deficient. This is all very complex and sometimes difficult when applied to a critically ill patient. Maintenance and treatment of physiological functions have improved dramatically over the past 25 years with advances in biomedical knowledge and technology. Intelligent use of the other human resources of staff and also of patients and their families/friends has been slower to develop, or sometimes has even got lost amongst the stressful environment and machines leading to dehumanisation of the patient and possibly the staff. The nursing process is an approach to nursing which can help to restore the balance, as well as bringing more order and direction into the potential chaos of too many people trying to do too many things to each patient in too little time. Nurses being prepared to function effectively in a critical

care setting need additional breadth and scope of instruction in each of the four main phases of the nursing process (Alspach, 1982).

DEVELOPMENT OF THE NURSING PROCESS

When most people were nursed at home, with just one patient and one nurse, and relatively simple medical treatment, it was easier to give individualised care. However over the last 100–150 years more and more people have been admitted to hospital, some for increasingly complex treatment, others for surgery or investigations and early discharge. As staff working hours have decreased and the number of health care staff increased continuity in the nurse-patient relationship has become more difficult to achieve. Furthermore many of the staff giving nursing care to patients have been student nurses or others without formal nursing qualifications. In most countries nursing as practised, if not as taught, became largely a series of tasks performed by a succession of people without a view of the whole person and their care. These tasks were mainly derived from medical orders, standard routines or nursing orders without any stated rationale. Often the people performing the tasks lacked the knowledge, skills and motivation to assess whether they met the patients' needs, or to evaluate the patients' response to care. In any case information in nursing records usually referred to tasks performed or to be performed rather than to the patients' condition, which was usually described in such general terms as 'satisfactory', 'very ill', or 'poorly'. Within the routinised system which developed even the allocation of a qualified nurse to care for only one or two patients does not mean that these patients necessarily receive individualised care.

The history of the nursing process in the U.S.A. during the 1960s and 1970s has been described by Yura & Walsh (1978), Henderson (1982) and others. Henderson suggests that it evolved largely from movements to:

1. individualise nursing care
2. identify and help people with their psychosocial as well as their physical problems
3. emphasise the science as opposed to the art of nursing
4. establish the right of the nurse to an independent, professional and unique role.

In Britain there were nurses similarly dissatisfied with the often task-oriented and routine nature of nursing practice, and concerned about the increasing discontinuity and, judging by the reports of ex-patients and others, the persistent occurrence of depersonalisation of patients. With the development of intensive care, monitoring and new possibilities for reversing deterioration in patients' conditions nurses in such settings recognised the need to develop further their assessment skills and keep more detailed, accurate and precise nursing records of at least physical aspects of care.

It seemed difficult, however, to fit non-physical care into the system in a rational and orderly way. Therefore it is not surprising that when McFarlane (1973) and others began to describe the nursing process in teaching as a systematic, problem-solving approach to individualised nursing care it was adopted by some nurses as a potential solution to some of the problems. While not all ideas included in the concept of the nursing process were new this approach provides a framework in which the best of existing nursing practice can be developed further to become more effective and more consistent.

Four main phases have been identified:

- | | |
|-------------------|--|
| <i>assessment</i> | — gathering information relevant to the patient's health, well-being and nursing care, and from this identifying the patient's actual or potential health problems for which nursing care is appropriate |
| <i>planning</i> | — setting goals, objectives or desired patient |

outcomes and planning the nursing care required to work towards them

implementation — carrying out the planned care

evaluation — judging the patient's response to care and the degree to which the goals, objectives or desired outcomes have been achieved.

These four stages have been divided in various ways by different authors in the past. Currently the tendency is to divide the first stage into two. In the U.S.A., mainly as a result of the work of the National Group for the Classification of Nursing Diagnoses (Kim et al 1982) the stages are emerging as: Assessment (data collection), Nursing diagnosis, Planning, Implementation and Evaluation, whereas MacFarlane & Castledine (1982) in the U.K. give the first two as Data collection and Assessment (identification of patient problems).

Based on previous literature and in an effort to avoid further semantic confusion the nursing process will be considered here as a systematic, rational, problem-preventing/problem-solving process with four main phases (assessment, planning, implementation and evaluation) which may overlap, and are usually cyclical. It is the content of each phase which makes the nursing process different from the problem-solving approach in other contexts. Identification of the patient's actual or potential health-care problems for which nursing is appropriate is based on some initial data collection, though more data will be gathered later. When these problems have been identified the desired outcomes and nursing actions are planned. The plan is then implemented, the patient's responses to care evaluated, and the cycle is repeated until the patient no longer requires nursing. The four phases — assessment, planning, implementation of the plan, and evaluation — may be accomplished within a short time and may not be fully documented in an

emergency and short-term situation. Or the time taken to work through the cycle may be greater with longer term patient problems which change more slowly, and more detailed documentation becomes essential to maintain continuity and consistency. If it is well-documented care need not be interrupted by a change of nurse or a change in location of the patient. However one nurse should take overall responsibility for planning patient care in one location. Implicit in the concept of the nursing process are the patient's right to individualised care within the resources available and his right to take an active interest in his care, so validation with the patient should take place with the patient when possible (Fig. 2.1). The nursing care planned should take into account and complement the activities of the doctors and other health care workers since the progress of critically-ill people usually depends on good teamwork. Often the nurse plays a considerable part in coordinating the various care and treatment activities, which requires good interpersonal and management skills.

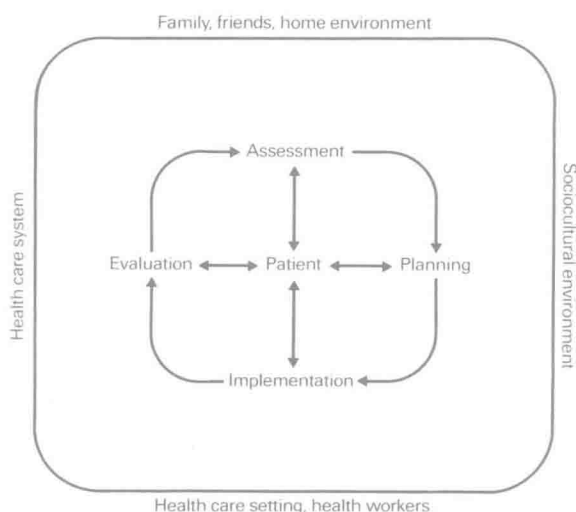


Fig 2.1. The nursing process is a problem-preventing/problem-solving approach to nursing. The nurse, in collaboration with the patient when possible, assesses the need for nursing care in relation to the patient's health problems, plans, gives and evaluates nursing care. The prime purpose is to provide good nursing care to those who need it. The interactive process between nurse and patient is necessarily affected by the context in which it takes place.

This approach to nursing provides a framework for nursing care which is based on knowledge of the physical and behavioural sciences, interpersonal and other psychomotor skills. It may be modified by the cultural, organisational and social setting, but is even more dependent on the nurse's knowledge and beliefs about human beings, health and nursing. The way in which a nurse thinks about these will guide what she includes in each stage. For example a nurse who believes that nursing is concerned with helping people to maintain their full potential for health in any given circumstances will practise and record differently from one who believes that she is there to accomplish a number of tasks, and that nursing expertise is only required for the more technical of these.

Although not all patients in an acute high dependency nursing unit are in quite the circumstances described at the beginning of this chapter there are common factors which affect the planning and provision of nursing care for many acutely ill patients:

1. If the patient is admitted as an emergency it may be inappropriate or even impossible to take a full nursing history from him on admission, though information can be gathered from other sources and by observation.
2. There may be frequent and rapid changes in the patient's condition, necessitating a format for the nursing records which readily allows for changes in the care plan.
3. There may be many care, investigation and treatment activities to be done involving a number of people. This must be allowed for in planning nursing care so that all is accomplished with the greatest benefit and the least stress for the patient.
4. Technical equipment may be used for monitoring or treatment purposes. The benefits and risks of using such equipment should be considered when planning nursing care in order to maximise the benefits and minimise the risks

NURSING ASSESSMENT

The purposes of nursing assessment are:

- to provide nurses with a 'picture' of the person they are nursing so that they can relate to him appropriately
- to gather all information necessary as a basis for identifying a person's health problems for which nursing care is appropriate and required
- to collect information relevant to working with the patient on these problems or needs for nursing care (resources, strengths, weaknesses or deficits)
- to identify the patient's problems or needs for nursing care so that the most effective care possible can be planned and delivered.

The whole process of assessment includes five steps:

- collecting information about the patient (data collection)
- interpreting the information
- identifying the patient's health-related problems for which nursing is appropriate (or needs for nursing care, or nursing problems)
- checking with patient (validation) when possible, because after all nursing care is intended for his benefit, and if he does not see as his needs for nursing care those identified, then co-operation may be very limited. (This obviously depends on the type and frequency of problem — one does not stop to ask a patient with an obstructed airway whether he feels he needs it cleared!)
- setting priorities, since it may not be possible to work on all identified problems to the full extent at the same time.

DATA COLLECTION

The kind of nursing assessment needed for highly-dependent patients will vary according to the situation. Some may be admitted to a unit for intensive care after operation with full

records of pre-operative assessment and care; others as emergency admissions in life-threatening situations with little accompanying information; or any variation between these two extremes. In emergency or when a patient is admitted after a major operation a rapid but careful assessment of immediate behaviour, emotions, environment, physiology (BEEP) as suggested by Roberts (1976) provides a good basis for planning initial care. Further information will be necessary later.

Both subjective and objective information can be useful and necessary. Information which is based on and perceived according to such aspects of the patient, nurse or family as their emotions, prejudices and experience (subjective) cannot be verified by another person in the same way as an objective fact or measurement, such as date of birth or temperature, but may be just as important when planning care.

The main sources of information for a nursing assessment are:

1. The nurse's senses — sight, hearing, touch and sometimes smell — aided when necessary by technical equipment. The patient may or may not be able to contribute to assessment verbally or by responding non-verbally to questions or commands.
2. Written records about the patient.
3. Other health care staff.
4. The patient's visitors (wife/husband, family or friends). Although much useful information may be gathered from visitors, especially when the patient is unable to talk, it must be remembered that their view may not always be the same as that of the patient, so information should be checked with the patient as necessary when this becomes possible.

Which of these sources is most important depends on the situation. Usually the patient's name, age, medical diagnosis, and name and address of next of kin or other person to be contacted in emergency are available on admission, or even before so that preparation for nursing care can be started. But it is

important to check the medical records again on admission since there may be changes in medical information which are relevant to nursing care, and these may or may not be conveyed direct to the nursing staff.

Information which can be obtained by observation or measurement is readily available for any patient. This includes information on:

- physical behaviour such as restlessness or immobility, normal or abnormal movements of any part of the body, or response (or lack of it) to stimuli indicating state of consciousness and/or senses and ability to respond appropriately.
- emotions, such as distress, anxiety, trust or apathy may be conveyed by facial expression, clenched or relaxed hands or muscle tension, as well as moans, sighs or words, or other non-verbal signs.
- environmental factors which may be affecting the patient and causing physical or psychological discomfort. This may include equipment or dressings attached to him which may be pulling, or tightly strapped and/or causing pressure; strange things which he can see or hear; light shining in his eyes; inadequate body covering and/or environmental temperature, or other factors. Any actual or potential hazards should also be noted.
- physiological functions or states as indicated in Table 2.1

Table 2.1 cont'd

Function or state	Main indicators
Respiratory function	Rate, rhythm, sound and depth of respiration, skin colour (pink, pale, cyanosed or flushed), apparent effort, and any signs of use of accessory muscles.
Gastrointestinal function	Presence or absence of hunger, thirst, nausea, or vomiting, abdominal distension, pain, bowel sounds. Also relevant are skin turgor, (poor if dehydration occurs), and the colour, consistency, quantity and sometimes the contents and smell of any faeces or vomit.
Renal function	The amount, colour, content and smell of urine, and the degree of frequency and urgency with which it is passed and whether any incontinence occurs. Also any pain or discomfort.
Skin state	Apart from colour changes indicating the function of other systems as stated above, and jaundice, other relevant signs should be noted, such as any skin damage, bruising or other abnormalities (e.g. rashes, blisters, excessive dryness), or excessive fluid loss through the skin. The sensation of heat or cold on touching the skin may provide some indication of the patient's temperature but can be very misleading, since it depends partly on the skin temperature of the hand touching the patient, and also the part of the patient's body being touched and his circulation. When the peripheral circulation is poor the temperature of the limb extremities may be several degrees below the core temperature.
Condition of eyes	Abnormalities such as apparent inflammation, chemosis, or abnormal or absent pupil reactions may be due to local or general factors, and in either case may necessitate care and/or treatment. Jaundice is often most evident in the sclera. The signs of most urgent relevance are usually abnormal pupil reactions since they are often related to cerebral dysfunction.

Table 2.1

Function or state	Main indicators
Cardiovascular function	Skin colour — pink, pale or cyanosed. Heart rate, rhythm, arterial pressure and pulse pressure (difference between systolic and diastolic pressure), any oedema. Other indicators may be measured, e.g. electrocardiogram, central venous pressure, pulmonary artery and wedge pressures and cardiac output (with a Swan-Ganz catheter) or left atrial pressures. Difference between central and peripheral body temperature.