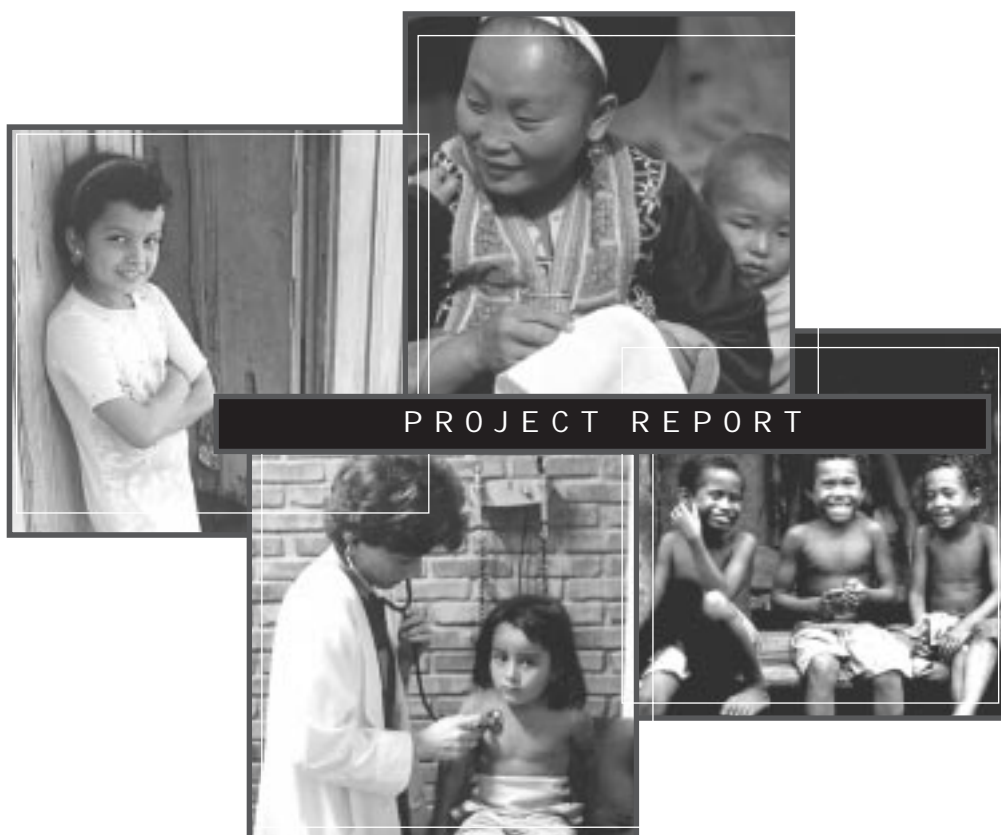


QUALITY

ASSURANCE

PROJECT



## Taxonomy of Health System Standards





QUALITY  
ASSURANCE  
PROJECT

TEL (301) 654-8338

FAX (301) 941-8427

[www.qaproject.org](http://www.qaproject.org)



The Quality Assurance Project (QAP) is funded by the U.S. Agency for International Development (USAID), under Contract Number HRN-C-00-96-90013. QAP serves countries eligible for USAID assistance, USAID Missions and Bureaus, and other agencies and nongovernmental organizations that cooperate with USAID. The QAP team consists of prime contractor Center for Human Services (CHS); Joint Commission Resources, Inc. (JCR); and the following entities at the Johns Hopkins University: the School of Hygiene and Public Health (JHSPH), Center for Communication Programs (JHU/CCP), and the Program for International Education and Training in Reproductive Health (JHPIEGO). QAP provides comprehensive, leading-edge technical expertise in the design, management, and implementation of quality assurance programs in developing countries. CHS, the nonprofit affiliate of University Research Co., LLC (URC), provides technical assistance in the design, management, improvement, and monitoring of healthcare systems in over 30 countries.

## Contents

Description and use of healthcare standards .....	1
Administrative policies .....	3
Algorithms .....	3
Clinical pathways .....	3
Clinical practice guidelines .....	3
Health outcomes and expected results .....	4
Job descriptions .....	4
Procedures .....	4
Protocols .....	4
Qualifications .....	4
Rules and regulations .....	4
Specifications .....	4
Standard operating procedures .....	5
Standing orders .....	5
Example 1: Administrative Policies .....	6
Example 2: Departmental Administrative Policy .....	9
Example 3: Algorithm .....	11
Example 4: Clinical Pathway, Health Outcomes, and Standing Orders .....	12
Example 5: Clinical Practice Guidelines .....	14
Example 6: Job Description and Qualifications .....	16
Example 7: Procedure .....	17
Example 8: Protocol .....	19
Example 9: Rules and Regulations .....	20
Example 10: Specifications .....	21
Example 11: Standard Operating Procedure .....	22
Example 12: Standing Orders .....	23
Glossary .....	24
References .....	25

## Acknowledgements

This report was written by Joanne Ashton. We greatly appreciate the contribution of the Joint Commission Resources/Joint Commission International and the Quality Assurance Project Standards Legacy Group in the conception and review of this document.



# Taxonomy of Health System Standards

Joanne Ashton

A standard is a statement of what is expected. Many types of standards exist in health care. Determining what type of standard is needed can be confusing, therefore, a taxonomy (or classification) of health system standards has been developed.

A taxonomy is a classification system for organizing and labeling terms. The following taxonomy of health system standards will assist in the understanding and development of standards in healthcare. The intent is to propose a systematic way of organizing standards as well as provide consistent terminology. This information will help persons responsible for healthcare to systematically develop standards to meet healthcare needs in their respective communities.

The first column of the taxonomy in the table below is divided into system components: input, process, and outcome standards. Inputs refer to the resources needed to provide care or services (staff, equipment, and supplies), processes refer to a series of activities or tasks (e.g., admission processes or patient care

management) that lead toward a particular result and outcomes are the results of the processes. The taxonomy is further divided into two main categories: administrative and technical. Some types of standards (noted with an asterisk) can be found in either category.

Each type of standard has its place; however, facilities may vary in the terms they use for standards. For example, in some locations, “norms” is another general term used to describe various types of standards, and for that reason “norms” is considered a synonym for standards and is not included as a specific type of standard within the taxonomy.

The glossary gives the selected term for each type of standard, the definition of each term, and, when appropriate, the synonyms currently in use. For instance, “clinical pathways” also may be called “critical paths” or “care maps.” All of these terms are acceptable; however, adopting a consistent terminology will improve communication between healthcare managers.

The glossary also cites those documents discussing established standards; full citations appear in the References.

**Table 1: Taxonomy of Health System Standards**

System Components	Categories	
	Administrative	Technical
INPUT	Administrative policies	Job descriptions*
	Rules and regulations	Specifications*
	Qualifications*	
PROCESS	Standard operating procedures	Algorithms
		Clinical pathways
		Clinical practice guidelines
		Procedures
		Protocols
		Standing orders
OUTCOME	Expected results*	Health outcomes

\*Can be found in either category.

## Description and use of healthcare standards

The taxonomy describes various formats for writing standards. Standards take a wide variety of forms, but all aim to improve services and health care. Each type of standard serves a different purpose. Facilities typically use a variety of these formats based on the user and the application. Thus, it is not a matter of selecting a single format for developing standards. For instance, clinical practice guidelines have been developed

### **Case Example: Cesarean Section Standards**

The following explanation is an example of the kind of decisions that need to be made in developing standards for patients requiring cesarean sections:

Administrative policies might address the following:

- **Staff utilization:** Who can perform a cesarean section (establish scope of practice)? The administrative officers will need to decide the qualifications needed, e.g., can all physicians perform a cesarean section or only obstetricians?
- **Description of organizational setting:** Where can the procedure be performed, e.g., can cesarean sections be performed in a primary health care clinic, general hospital surgical suites, or only in a dedicated obstetrical surgery department?
- **Health care services available:** Is this service available to all women requiring a cesarean section? This decision would be based on the level of service available at the facility. The administrative officers will determine whether the resources (trained personnel and equipment) are available to manage high-risk cases.
- **Patient safety:** If the patient requires a transfer to another facility, what is the policy regarding maintaining patient safety in transit?

A sample of an **administrative policy** might read: “Cesarean sections may be performed by physicians credentialed in surgical procedures, both general surgeons and obstetricians. An operating room within the general surgery will be designated and equipped for the management of cesarean sections. If the obstetrical suite is occupied, a general surgery suite may be used. Patients who require invasive monitoring or intensive care management will be referred and transported immediately to X Regional Hospital and accompanied by a physician or obstetrical nurse.”

The team in this example obtained **clinical practice guidelines** (<[www.guidelines.gov](http://www.guidelines.gov)>) from the National Guideline Clearinghouse regarding “Practice guidelines for obstetrical anesthesia”; “Prevention, diagnosis, and treatment of failure to progress in obstetric labor”; and “Elective repeat cesarean section”. The guidelines were communicated with the medical staff and used to guide medical practice.

The medical staff also developed a set of **standing orders** regarding the emergency management of pre-eclampsia, eclampsia, and fetal distress. The orders included such items as interventions for treating convulsions.

A multidisciplinary team discussed the need for standards regarding the normal post-op care as well as management of complications. They discussed the idea of implementing **clinical pathways**. They decided to develop a clinical pathway for the normal post-op care management. They further decided to develop **algorithms** for the emergency management of pre-eclampsia, eclampsia, and fetal distress in conjunction with the physician’s standing orders. The algorithms provided a quick visual diagram of how to treat the patient based on the presenting signs and symptoms. These algorithms were posted on the walls of the consultation rooms.

The team decided to develop **protocols** for prevention and management of phlebitis and a protocol for patient and family education. In addition, various procedures were deemed important including intravenous catheter insertion, urinary catheter insertion, and fetal monitoring. *Consequently, there is no single “best” way to develop standards; the team will want to review their needs and the options before deciding which format best serves their needs.*

primarily by physicians to guide their practice, whereas, protocols and procedures have been designed for more general use by health care professionals. A clinical pathway is a multidisciplinary approach to writing and implementing standards. Clinical pathways were originally designed for use in hospitals but are now being applied to other settings. The group designated to develop standards will want to consider who will be using the standards, in what setting, and

for what purpose in order to decide which are the appropriate formats for presenting standards. Some organizations have identified their key populations as well as common procedures in order to prioritize and plan their process for standard development. For example, one hospital identified patients undergoing cesarean section as a key population and decided on the types of standards that would be needed to serve this population (see example above).

---

The following descriptions illustrate how the different standard formats shown in Table 1 may be used:

## Administrative policies

Administrative policies are written at both an organizational and departmental level (example 1). For instance, organizational administrative policies often include the following elements:

- Description of organizational setting: location, type of facility
- Purpose of organization
- Mission statement
- Objectives of organization
- Organizational chart
- Hours of operation
- Healthcare services available
- Staff: e.g., types (physicians, nurses, technicians), utilization, medical staff body, management job descriptions
- Ethical/legal issues: e.g., employee drug abuse policies, professional licensure requirements, and scope of practice
- Patient safety: e.g., infection control, visitor policies, and disaster/fire policies

Organizational policies are written to cover issues that effect the whole organization and staff. In contrast, each department (pharmacy, nursing, and laboratory) will have department-specific policies (example 2). The elements included in these policies might be:

- Description of department
- Organization chart
- Hours of operation
- Services available
- Staff: e.g., types, utilization, staff job descriptions
- Specific department policies, e.g., medication administration

Department policies complement the organizational policies and may be more specific. For instance, the visitor policy for the hospital may be between 8 a.m. and 8 p.m., however, the visitors' policy in the critical care unit may be more restrictive or additional standards may be outlined for family members visiting the maternity ward.

## Algorithms

Algorithms are written in the format of a flowchart or decision tree (example 3). This format provides a quick visual reference for responding to a situation. For instance, algorithms are effective in emergency departments and critical care units. When staff are faced with an emergency, such as a patient hemorrhaging, they can treat the patient rapidly by following the algorithm.

## Clinical pathways

Clinical pathways provide the details of daily care for a specific diagnosis (example 4). The unique feature of clinical pathways is that they provide a day by day standardized plan of care. These plans are most often multidisciplinary so that care or treatment carried out by physicians, nurses, and therapists are all on the same form. The advantage of this format is that the patient's progress is monitored daily according to the planned interventions and expected outcomes. When the patient does not progress according to plan, an assessment can be made immediately and the "variance" reviewed. The patient may not be progressing due to problems in the system; e.g. the medication was not delivered. Or it may be, as a result of a problem such as the patient did not tolerate the medication. Regardless of the cause, the healthcare providers can intervene.

## Clinical practice guidelines

Clinical practice guidelines are typically physician-generated recommendations to assist practitioners in providing appropriate healthcare (example 5). The guidelines are evidence-based (based on current research) and unlike other types of formats that provide a step-wise approach to care and treatment, the guidelines provide information regarding the most effective treatments. Physicians use this information along with their experience and knowledge of the patient to determine the appropriate plan of care.

---

## Health outcomes and expected results

Health outcomes refer to the results of patient care whereas expected results may be used to describe the results of administrative actions. For instance, a clinical pathway (example 4) usually identifies the health outcomes expected, e.g., the new mother will be able to breastfeed without difficulty. However, an expected result of fire prevention training might be effective fire prevention.

## Job descriptions

Job descriptions are typically written for each job category, e.g., professional nurses, auxiliary nurses, cleaning staff, laboratory personnel (example 6). Often the qualifications of the position are described within this document rather than in a separate document. Qualifications may include expectations regarding education, experience, or licensure. Personal attributes desired for the job also may be included as well as physical demands and equipment that may be used to perform the job. Job responsibilities are outlined and any other information specific to the job that is required.

## Procedures

Procedures are step-by-step instructions on how to perform a technical skill. This format often involves the use of equipment, medication, or treatment (example 7). Examples of procedures include how to administer blood, insert tubes (nasogastric, urinary catheters), administer medication (oral, rectal, intravenous), administer tube feedings, perform suctioning, and wound care.

## Protocols

Protocols define patient care management for specific situations or conditions (example 8). Protocols may be written for the care of patients who have indwelling tubes (e.g., nasogastric, urinary catheter). Thus, the procedure would describe how to insert the tube and the protocol would describe how to care for the patient with a tube in place. Standards might include how often to assess the patient, what to assess, and what types of treatments are needed. Protocols may

also be written for patient categories, e.g., maternity care. Protocols would outline prenatal care, post partum care, as well as emergency care such as eclampsia or premature labor (algorithms are an alternative format).

## Qualifications

Qualifications are often written in the job description (example 6). Sometimes they are included in medical staff rules and regulations. Qualifications describe what is expected in terms of education, experience, or licensure to perform a specific job or procedure. For example, to become a member of the medical staff of a hospital, qualifications may include successful completion of studies at an accredited medical school and a medical license. However, to be qualified to perform a specific procedure, e.g., open heart surgery, the hospital may require additional qualifications such as experience performing the surgery with supervision or attendance at an approved course.

## Rules and regulations

Rules and regulations are statements of expectations that usually identify a consequence if the rule is not carried out (example 9). Medical staff often have rules and regulations. For instance, the rule may be that documentation on the medical record should be completed within 72 hours of the patient's dismissal from the hospital. When documentation is not complete according to the rules, the physician may be subjected to suspension from privileges (e.g., cannot admit additional patients to the hospital).

## Specifications

Specifications refer to a detailed description of what is required in the product or service (example 10). Product specifications might include a description of the product, characteristics, performance requirements, quality standards, reliability, safety, and steps to be taken in case the product does not meet all of the specified requirements. As part of the ISO 9000 quality management standards, customers are to be made aware of product specifications, e.g. medical equipment such as defibrillators.



---

## Standing operating procedures

Standing operating procedures provide instructions on how to proceed under specific circumstances (example 11). Standing operating procedures are administrative actions rather than technical actions. For instance, if a medication error has been made, a standing operating procedure would describe what to report, to whom, etc.

## Standing orders

Standing orders are a set of physician orders pre-established and approved to allow nurses or other professionals to initiate medical treatment in the absence of the physician (examples 4 and 12). These orders may be specific to a singular physician or may

be orders approved by the hospital medical staff. In the critical care unit; for instance, a physician may develop a set of “standing orders” for postoperative open-heart surgery patient. In this way, the physician does not need to rewrite the orders for each patient. This set of orders then is modified to meet each patient’s specific needs. On the other hand, standing orders approved by the medical staff for the critical care unit is a list of orders to manage emergency situations. Usually the orders include drugs or treatment (e.g., defibrillation) to be administered under circumstances such as cardiac arrhythmia.

The technical process standards are possibly the most difficult to differentiate through descriptions. Table 2 provides a grid to assist in identifying the technical standards and their uses.

**Table 2: Technical Process Standards: Description and Use**

Standard Format	Description	Use
Clinical practice guidelines	Recommendations for medical care based on current research	Physician's reference in management of specific situations or conditions
Clinical pathways	Expected, multidisciplinary daily plan of treatment primarily used in hospitals	Nurses, physicians and others use daily plan to progress the care of the patient
Algorithms	Flow charts or decision grid	Quick, visual, helps make decisions
Procedures	How-to, step-by-step instructions	Directions on how to perform a technical skill, e.g. insert a urinary catheter
Protocols	Management of patient care	Patient care management for specific situations, care of the patient with a urinary catheter or specific conditions, e.g. post operative patients
Standing orders	A pre-established set of medical orders	Permits nurses and/or other professionals to initiate medical orders in the absence of a physician, e.g. a patient with a cardiac arrhythmia in a critical care unit

---

*Example 1: Administrative Policies*

## Administrative Policies Infection Control Measures

### PATIENT CARE CONSIDERATIONS

#### Handwashing

- Good handwashing is essential to safe, effective, patient care (see “Handwashing Procedures, Routine and Scrub”).
- Handwashing facilities (sink, soap and dispensers, and disposable towels) are available in each patient room and/or patient care area.
- Each patient care unit has a specific written handwashing routine.

#### Housekeeping

- Housekeeping services are available in each patient care area.
- Floors are vacuumed/mopped daily with a germicidal solution (quaternary ammonium cpd).
- All patient rooms are damp-dusted daily using a germicidal solution.
- Spills are cleaned up immediately.
- Medication carts and storage areas are cleaned weekly and as needed with a germicidal detergent.
- Nursing shares the responsibility for maintaining a clean, safe, patient environment.

#### Visitors

- To promote the comfort and well being of patients, visitors should keep visits short with a limit of two visitors per patient.
- Visitors must be at least 12-years old, with exceptions for acute-care areas and psychiatric units (see specific unit policy).
- Visitors showing obvious signs of illness are asked not to visit.

### PERSONNEL ILLNESS

- Employee health services are available for personnel who become ill or are injured while on duty.
  - (1) Most services at the employee health clinic substation are rendered free of charge to the employee.
    - (a) The substation provides primary healthcare for work-related illnesses and injuries to working employees requiring first aid or health counseling.
    - (b) The hospital emergency department treats illness or injury of a severe nature.
  - (2) Admission to the employee health clinic substation requires that an employee present a **properly** signed (by supervisor or department head) referral slip to the receptionist at the hospital substation.
- Employees exposed to or contracting an infectious disease are referred to employee health services.
- In high-risk patient areas, special precautions are taken to protect both patients and personnel when an infectious condition exists.
  - (1) Patients with communicable diseases are placed on appropriate isolation precautions (see isolation procedures).
  - (2) Isolation rooms (one per unit) are available.
  - (3) Isolation supply carts are available to facilitate patient care.

*Continued*

---

*Continued*

- (4) The patient's physician is responsible for ordering isolation precautions, but it is a nursing responsibility to inform the physician when an infection is suspected.
- (5) It is the responsibility of the nurse manager or his or her designee to ensure that all personnel follow appropriate procedures and that patients and visitors are properly instructed.
- (6) Infectious patients transported from their rooms to another department should follow proper protective precautions.
- (7) Red labels indicating "blood/body fluid precautions" designate infectious patients.

## **SUPPLY AND EQUIPMENT CONSIDERATIONS**

### **Use of Transport Stretchers and Wheelchairs**

- Use clean linen for each patient.
- When stretchers/wheelchairs become contaminated (e.g., with drainage), clean the area thoroughly with detergent germicide before replacing clean linen.
- Schedule routine cleaning of wheelchairs and stretchers with the appropriate department (Environmental Services, carpenter shop for caster change and oiling).

### **Use of Sterile Irrigation Solutions (Solutions for External Use)**

- When a sterile irrigation solution container is opened, note the time and date on the container. Never assume sterility of an opened container.
- Single patient use is recommended.
- If the irrigation solution is used for multiple patients, do not take the container into a patient's room. Sterile solution bowls are used to transfer solutions from the container to the patient's bedside. Use extreme caution in transferring solutions to avoid cross-contamination.
- At *no time* is it acceptable to withdraw sterile irrigating solutions straight from the container to the patient's bedside. This results in contamination of the entire solution and encourages the growth of organisms.
- Cover sterile solution bowls remaining at the bedside adequately to prevent possible contamination during a shift. If there is a question of sterility, discard the entire contents and replace with a sterile bowl and solution.
- Use open sterile solutions within an eight- to twelve hour shift. Discard any remaining solutions.
- Change sterile solutions used for tracheotomy care each shift.
- Dextrose solutions support the growth of organisms; therefore, change these solutions every 24 hours.

### **Preparation of Equipment from Isolation Rooms**

- Portable, reusable equipment (hypothermia units, suction regulators, etc.) that has been used in a patient's room and needs to be returned for sterile processing should be inspected by the nursing staff. If the equipment is visibly contaminated with blood, sputum, or other body fluids, it should be wiped off with a disinfectant solution by the nursing staff before being sent for repairs or reprocessing.
- Portable, reusable equipment that has been used in the room of a patient who has been on isolation for an infectious disease should be handled similarly; i.e., the equipment should be wiped off with an appropriate disinfectant solution by the nursing staff if it is visibly contaminated.
  - (1) In addition, equipment from isolation rooms should be bagged in the "contaminated items" bags before being sent for reprocessing.
  - (2) Items too large to be bagged may simply be covered as much as possible by a "contaminated items" bag after inspection and/or cleaning has been performed by the nursing staff.

*Continued*

---

*Continued*

- By removing body fluid contamination before the equipment is removed from a patient's room, the chance for spreading pathogenic organisms throughout the hospital environment will be reduced. Also, by bagging equipment from isolation rooms, the staff in sterile processing will be alerted to the use of the equipment in isolation areas and will institute proper cleaning protocols.

*Note: This policy does not apply to equipment used for invasive procedures on patients (endoscopes, biopsy needles, etc.).*

### **Reusable Patient Care Items/Equipment**

- Wipe all multiple reusable patient care items (stethoscopes, otoscopes, reflex hammers, etc.) clean after each patient use with alcohol or detergent germicide.
- Empty suction bottles every eight hours unless ordered otherwise, and clean the bottles with detergent germicide every 24 hours.
- Resterilize suction canisters and regulators between patients only when they are contaminated or the patient is on isolation.
- Remove all medications from unit storage shelves at least every three months and clean the compartments with detergent germicide.

### **Linen**

- Store clean linen in a clean, enclosed storage area and keep it separate from soiled linen.
- Once linen is taken into a patient's room, do not return it to the clean linen closet.
- Discard clean linen in the soiled linen hamper that is dropped on the floor.
- Do not take soiled linen hampers into a patient's room.
- Carry soiled linen away from the body to avoid personnel- and cross-contamination.
- Change linen after each patient use.
- Fold linen inward as it is removed from the bed.
- Cover pillows with antibacterial and waterproof covering and clean the covering with germicidal solution between each patient.

### **Needles and Syringes**

- Deposit used needles and syringes in appropriate containers.
- When the syringe and needle disposal container is full, place it in the soiled utility room. Cleaning staff will pick up the containers for disposal.

### **Disposal of Supplies from Isolation Rooms**

- All supplies that are wrapped are not considered a source of contamination and should not be discarded.
- All open disposable supplies that are used for direct patient care and all supplies that have been unwrapped should be discarded routinely.
- Only the necessary supplies should be stocked in isolation rooms.
- Follow nursing procedures for disinfecting or sterilization of patient care equipment.

## Administrative Policy Pharmacy Department

### Errors: Medication

Page 1 of 2

Effective date: 5/1995

Review date: 5/1997, 6/1999, 5/2000

Revised: 5/2000

#### **Purpose**

To define a system for identifying, reporting, classifying, reviewing, and preventing medication errors (i.e., errors of prescribing, interpreting, dispensing, and administration).

#### **Policy**

It is the responsibility of all healthcare providers in the clinical setting to detect and to report medication errors for review by the pharmacy committee.

#### **Definitions**

A medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer. Such events may be related to professional practice, healthcare products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; and education monitoring or use.

Specific types of medication errors are classified as:

1. **Prescribing error:** inappropriate drug selection (based on indications, contraindications, known allergies, existing drug therapy, and other factors) dose, dosage form, quantity, route, concentration, rate of administration, or instructions for use of a drug product ordered by a authorized prescriber.
2. **Omission:** the failure to administer an ordered dose to a patient. Excluded would be (1) a patient's refusal to take the medication, or (2) a decision not to administer the dose because of recognized contraindications.
3. **Wrong time:** the failure to administer a medication dose within a pre-defined interval (i.e., one hour) from its scheduled administration time, unless the patient is undergoing a treatment or procedure that alters the administration time.
4. **Unauthorized drug/wrong drug:** the administration of a dose of medication not authorized to be given to the patient. For example, a patient received IV Lidocaine instead of a 5 percent dextrose solution. Instances of "brand or therapeutic interchange" are not included counted as unauthorized drug errors except where prohibited by institutional policy.
5. **Wrong dose:** administration of a dose that is greater than or less than the amount ordered by the prescriber or administration of duplicate doses to the patient, i.e., one or more dosage units in addition to those that were ordered.
6. **Wrong dosage form:** administration of a drug product in a different dosage form than was ordered by the prescriber. An example is the administration of the intramuscular formulation of an injectable agent (by the intramuscular route) when the intravenous formulation was ordered.

*Continued*

---

*Continued*

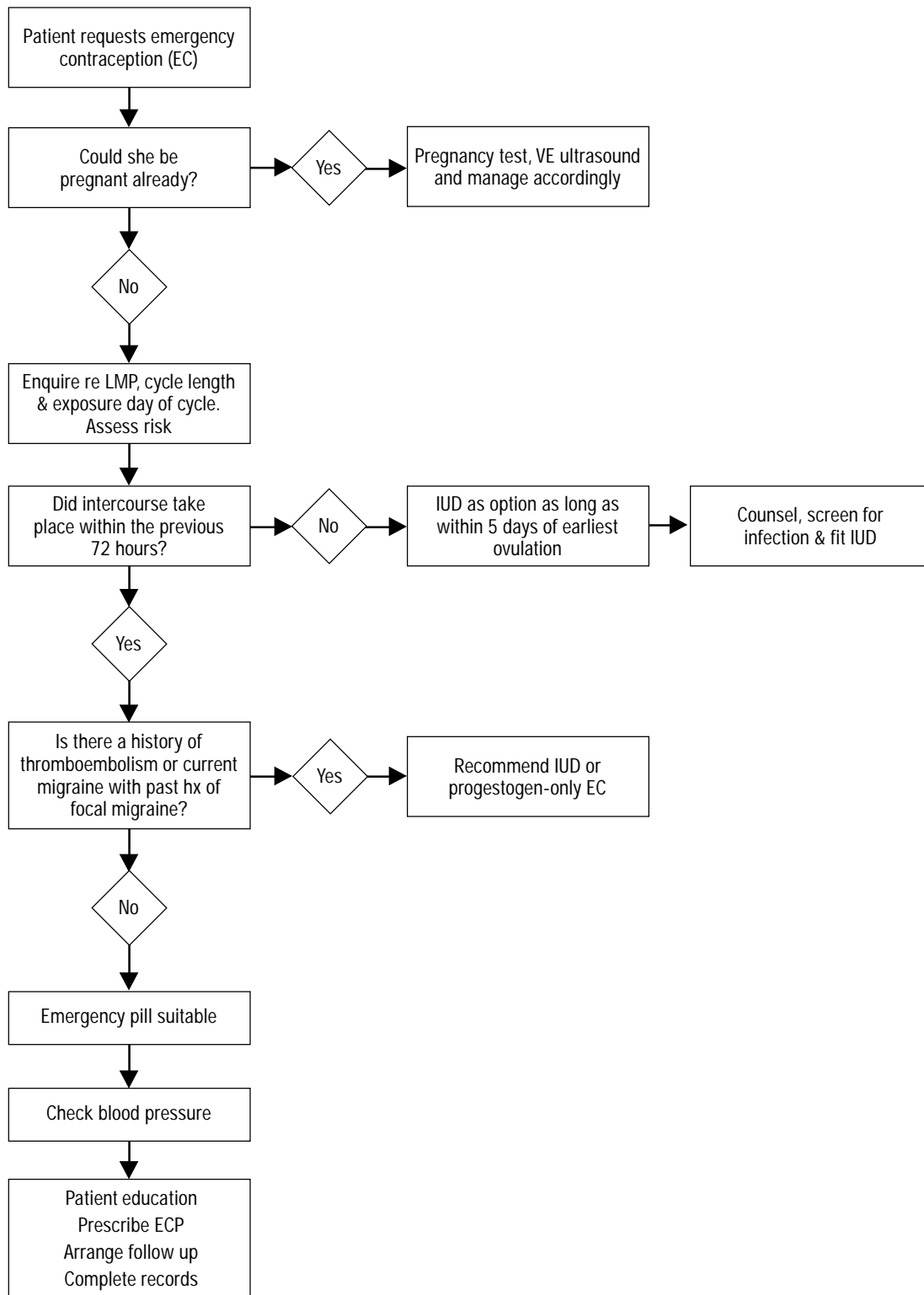
7. **Wrong drug preparation:** drug product incorrectly formulated or manipulated before administration. This would include; for example, incorrect dilution or reconstitution, mixing drugs that are physically or chemically incompatible, and inadequate product packaging.
8. **Wrong administration technique:** inappropriate procedure or improper technique in the administration of a drug. Examples would include doses administered (1) via the wrong route (different from the route prescribed), (2) via the correct route but at the wrong site (i.e., left eye instead of right), and (3) at the wrong rate of administration.
9. **Deteriorated drug:** administration of a drug that has expired or for which the physical or chemical dosage form integrity has been compromised. This would include, for example, use of expired drugs and improperly stored drugs (medications requiring refrigeration that are left at room temperature).
10. **Other medication errors:** any medication error that does not fall into one of the above predefined categories.

### Severity level/outcome codes:

1. The severity codes for all medication errors except prescribing errors are as follows:
  - Level 1 no patient harm
  - Level 2 increased patient assessment/reassessment, non-invasive
  - Level 3 need for increased assessment/reassessment, invasive
  - Level 4 treatment with a drug or increase length of stay or change in participation in drug study
  - Level 5 potential/permanent patient harm or organ system failure
  - Level 6 death
2. Prescribing errors, followed by pharmacist intervention may cause potential harm, but not actual harm. An error occurred, but the medication did not reach the patient. The severity codes for prescribing errors are as follows:
  - Level 1 no potential harm
  - Level 2 potential additional monitoring, treatment, intervention, hospitalization, and/or increased length of stay. No harm to patient or only temporary harm to patient likely.
  - Level 3 potential permanent harm
  - Level 4 potential life-threatening effect

Example 3: Algorithm

### Emergency Contraception



Example 4: Clinical Pathway, Health Outcomes, and Standing Orders

**Obstetrical  
Care  
Clinical  
Pathway**

**Pregnancy Induced Hypertensive Disorders**

Name \_\_\_\_\_

Date of admission \_\_\_\_/\_\_\_\_/\_\_\_\_

Referred  yes  no

Identification number
Serial / IP number
____ / ____

Starting Page

	Date ____/____/____			Date ____/____/____			Date ____/____/____			Date ____/____/____		
	D	E	N	D	E	N	D	E	N	D	E	N
<b>Check 3x/day</b>												
Blood Pressure	200			200			200			200		
Systolic	180			180			180			180		
	160			160			160			160		
	140			140			140			140		
Diastolic	120			120			120			120		
	100			100			100			100		
	80			80			80			80		
	60			60			60			60		
<b>Fetal Heart Rate</b>												
	170			170			170			170		
	160			160			160			160		
	150			150			150			150		
	140			140			140			140		
	130			130			130			130		
	120			120			120			120		
	110			110			110			110		
	100			100			100			100		
<b>Convulsions*</b>												
<i>Initials =&gt;</i>												
<b>Check 1x/day</b>	Result	Initial	Result	Initial	Result	Initial	Result	Initial	Result	Initial	Result	Initial
Edema							Ed					
Weight							Wght					
Hyperreflexia							HypR					
Proteinuria							Prot					
<b>Give</b>	Result	Initial	Result	Initial	Result	Initial	Result	Initial	Result	Initial	Result	Initial
Inderal 80 mg BD							Ind					
Aldomet 250(-500 mg) tds							Ald					
Diazepam 5 mg tds							Diaz					
<b>Counsel</b>	Result	Initial	Result	Initial	Result	Initial	Result	Initial	Result	Initial	Result	Initial
Restricted salt												
Bedrest left side												
Check Newborn Breastfed*							BrF*					

\* or  = Possibility of critical event

Continued



Continued

Problems in the Management of the Patient			
Date	Problem	Reason	Action

Critical Events	Standing Orders	Comments	Date	Time
1. Convulsion	Call Doctor – Put I.V. drip – Prepare MgSulfate <b>Magnesium Sulphate:</b> <i>Dosage:</i> 4 gr I.V. – slow 5 minutes 5 gm deep I.M. in each buttock <i>Side effects:</i> Hyporeflexia Use Ca gluconate <i>Contra-indication:</i> Hepatic impairment			
2. Blood pressure not lowering after 2 days of correct treatment	Combine with second line anti-hypertensive tabs Aldomet 500 mg			
3. Fetal heart rate >160 or <90/minute	Fetal distress – Call Doctor – Prepare for C-section			
4. Newborn not breastfed	Examine child for hypothermia – Call Doctor			

Health Outcomes at Discharge (please circle correct statement)				Date of Discharge
	Alive	Death	Absconded	_____ / ____ / ____
<b>If woman alive:</b>				
<b>Blood pressure mother:</b> /    /				
<b>Type of delivery:</b>	Vaginal	C-section	Undelivered	
Date of next appointment with medical officer or consultant:				
<b>Status newborn:</b>	Alive	Death		

Note: Standing orders and health outcomes are incorporated into this clinical pathway.

---

**Example 5: Clinical Practice Guidelines**

## Quality Standards for Immunization

**Source:**

Clin Infect Dis 1997 Oct/25(4):782-6 (15 references)

**Adaptation:**

The guideline document is a summary of guidelines already developed by national organizations, including the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention, the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP).

**Release date:** 1997

**Major Recommendations:**

The IDSA endorses the use of the following immunizations on the basis of current immunization recommendations for healthy infants, children, and adults. Vaccinations for children include diphtheria, tetanus, and pertussis (DTP/DTaP); *Haemophilus influenzae* type b; hepatitis B; measles, mumps, and rubella (MMR); poliomyelitis; and varicella. All adults should be immune to measles, mumps, rubella, tetanus, and diphtheria and those >65 years of age or in groups at high risk for infection should receive pneumococcal vaccine and annual influenza vaccinations. Adults susceptible to hepatitis A, hepatitis B, and/or varicella should be immunized if they are at risk for exposure to these viral agents.

**The Standard**

**Children**

The standard is immunization of children and adolescents according to the current “Recommended Childhood Immunization Schedule, United States” approved each year by the Advisory Committee on Immunization Practices of the Centers for Disease Control and Prevention, The American Academy of Pediatrics, and the American Academy of Family Physicians. Vaccinations that should be given are those against diphtheria, tetanus, and pertussis (DTP/DTaP); *Haemophilus influenzae* type b; hepatitis B; measles, mumps, and rubella (MMR); poliomyelitis; and varicella. The specific target is 90% immunization rates by age 2 years for the routinely recommended vaccines in the schedule. Approximately 80% of immunizations recommended for children are scheduled in the first 2 years of life. For adolescents, routinely recommended vaccines should be given at age 11-12 years, in accordance with the recommendations noted previously. Children and adolescents at increased risk for influenza, hepatitis A, or invasive pneumococcal infection should be given appropriate immunizations.

**Adults**

The standard for adult immunizations is based on recommendations from the Advisory Committee on Immunization Practices of the Centers for Disease Control and Prevention, The American College of Physicians, and the American Academy of Family Physicians, and other national organizations.

*Continued*

Continued

### Recommendations for immunizations in adults

Vaccine	Recommendation
MMR *β	Two doses for persons born after 1956 who are at high risk of exposure; one dose for persons born after 1956 who are at low risk of exposure
Tetanus/diphtheria *	Primary series consisting of first doses, second dose after 1 month, and third dose 6-12 month later, followed by a booster every 10 years or once at the age of 50 years.
Influenza ++x	Annual vaccination
Pneumococcal ++ <sup>2</sup>	One vaccination, with possible revaccination after >6 years
Hepatitis B #**	First dose, followed by second dose 1-2 months later; third dose 5 months later
Varicella #ββ	First dose, followed by second dose 1-2 months later
Hepatitis A #ββ+	First dose, followed by second dose 6-12 months later

NOTE: Data are based on recommendations of the Advisory Committee on Immunization Practice and the American College of Physicians.

MMR = measles-mumps-rubella.

\* For all adults lacking immunity.

β Adults born in or before 1956 are considered naturally immune; adults born after 1956 should receive one dose of MMR vaccine and some adults, such as college students, persons working in health care facilities, and international travelers, may need two doses.

++ For all adults >65 years of age and for persons with chronic illnesses.

x Includes other persons at high risk such as those with chronic cardiopulmonary disease, chronic metabolic diseases (including diabetes mellitus), chronic renal dysfunction, hemoglobinopathies, and immunosuppression, as well as residents of long-term care facilities, providers of home health care or health care to high-risk persons, and other individuals who wish to avoid influenza.

<sup>2</sup> Includes younger individuals with high-risk conditions such as cardiopulmonary disease, diabetes, alcoholism, chronic liver disease, chronic renal failure, or CSF leaks or immunocompromise due to conditions such as splenic dysfunction or asplenia, Hodgkin's disease, lymphoma, multiple myeloma, nephrotic syndrome, and organ transplantation; revaccination should be considered for persons at highest risk who received the 14-valent vaccine or the 23-valent vaccine >6 years previously.

# For all adults in high-risk groups.

\*\* Includes those who are exposed to blood or blood products during their work (e.g., health care workers), clients and staff of institutions for the developmentally disabled, hemodialysis patients, sexually active homosexual or bisexual males, injection drug users, recipients of certain blood products such as factor VII or IX concentrates, household and sexual contacts of hepatitis B virus (HBV) carriers, sexually active heterosexual individuals with multiple partners or a recent episode of a sexually transmitted disease, inmates of long-term correctional facilities, individuals from high-risk populations (e.g., Pacific Islanders, Alaskan natives, and first generation immigrants and/or refugees from countries where HBV infection is of high or intermediate endemicity) and international travelers planning prolonged visits to areas with high rates of hepatitis B.

ββ Includes susceptible persons who may be increased risk of exposure or who have close contact with persons at high risk for serious complications from varicella infection including health care workers, susceptible family contacts of immunocompromised individuals, teachers of young children, or day care workers.

---

**Example 6: Job Description and Qualifications**

## **Job Description**

**Title:** Registered Nurse

**Department:** Nursing

**Review:** 6/93, 7/96, 8/02

**Purpose of Position:**

To provide professional health care to patients and their families by the application of the nursing process.

**Qualifications:**

- License to practice professional nursing
- Cardiopulmonary resuscitation certification

**Personal Attributes:**

- Ability to work effectively with others
- Tact and positive demeanor
- Professional dress and attitude
- Skills and knowledge necessary for professional nursing practice
- Compassion
- Flexibility in working under stressful conditions

**Physical Demands:**

- Routine exposure to body fluids
- Occasional strenuous lifting, up to 50 pounds
- Frequent bending, stooping, reaching, pushing/pulling, and walking

**Machines/Equipment Used:**

- Stethoscope, IV equipment, thermometer, suction machines, wheelchairs, trolleys

**Job Responsibilities:**

- 1) Assesses plans, implements, and evaluated patient care.
- 2) Documents patient care and observations.
- 3) Maintains a safe patient environment.
- 4) Provides necessary instructions to patient and family.
- 5) Responds to emergency situations.

*Note: Qualifications are incorporated into the job description.*

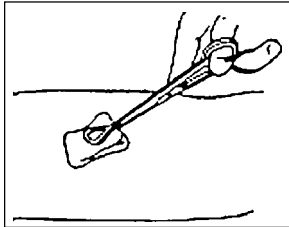
---

### Example 7: Procedure

## Insertion of the NORPLANT® Capsules<sup>1</sup>

**General Information:** Capsules are inserted on the inside of the upper arm 6 to 8 cm above the elbow. Inserted through a single incision, the six NORPLANT® capsules form a fan shape, with its base toward the incision. Special care must be taken to place the capsules just under the skin. If the capsules are inserted too deeply, locating and removing them can be difficult. Maintaining sterile technique throughout the procedure is essential to prevent infection.

### Procedure

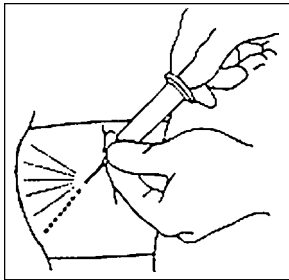


#### Step 1:

Assist the woman to lie comfortably on an examining table with her arm resting on an adjoining table that has been covered with a sterile cloth.

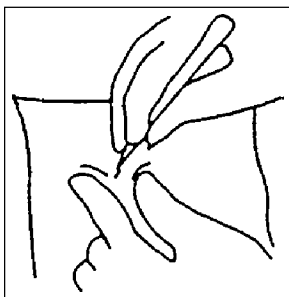
#### Step 2:

Wash the insertion area, apply antiseptic solution, and cover the area below the arm with a sterile cloth.



#### Step 3:

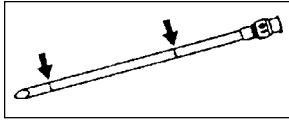
To anesthetize the insertion area, fill the syringe with 3 to 4 ml of local anesthetic, such as lidocaine 1%. Inject a small amount into the incision area just beneath the skin. This raises the outer layer of skin from underlying tissue and makes insertion easier. Then, turn the needle and anesthetize the six areas, 4 to 4.5 cm long, where the capsules will be inserted.



#### Step 4:

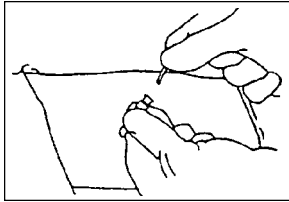
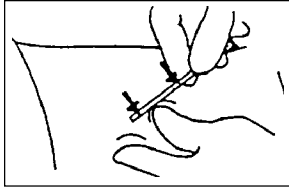
With the scalpel or the trocar, make a 2 mm incision parallel to the bend in the elbow (some clinicians omit this step, and use the trocar to puncture the skin; the trocar must be extremely sharp to substitute for a scalpel).

<sup>1</sup> These instructions are adapted from: Liskin L: Hormonal Contraception: New Long-Acting Methods. Population Reports Series K 1987; 3 (March-April): K-62; NORPLANT® Contraceptive Implants. Turku, Finland, Leiras Pharmaceuticals, 1983; and NORPLANT Contraceptive Subdermal Implants: Manual for Clinicians. New York. The illustrations are adapted from: NORPLANT® Contraceptive Subdermal Implants: Manual for Clinicians. New York.



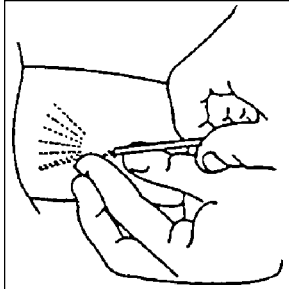
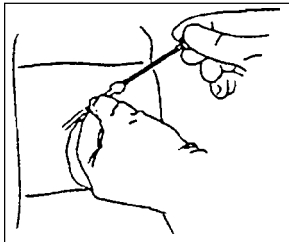
**Step 5:**

Insert the tip of the trocar through the incision. The trocar is marked in two places, near the top and near the tip. Gently advance the trocar into the incision to the mark near the top of the trocar, about 4 to 4.5 cm. While advancing the trocar, keep upward pressure on it without changing the angle of insertion so that the capsules will be inserted just below the skin (subdermally, NOT subcutaneously).



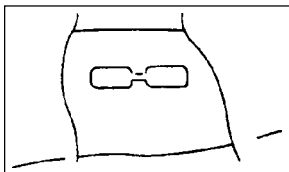
**Step 6:**

Load the capsule into the trocar. With the plunger, gently push until you feel resistance. Then bring the trocar back, keeping the plunger stationary, until the mark close to the tip is visible in the incision and you feel the capsule pop out of the trocar. Leave about 0.5 cm between the incision and the ends of the capsules. Do not remove the trocar from the incision. Feel the arm to make sure the capsule is in place.



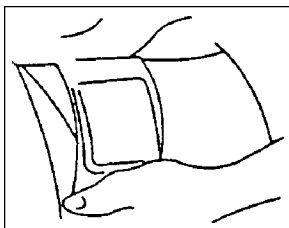
**Step 7:**

To place the next capsule, change the direction of the trocar so that the next capsule will be angled 15 degrees from the first capsule, in a fan-like pattern. Place your finger on top of the first capsule. Advance the trocar alongside your finger to mark near the hub. Load the second capsule into the trocar. When the mark is reached, re-insert the plunger. Then release the capsule under the skin by pulling back the trocar. As you proceed, make sure that the ends of the capsules are at least 5 mm from the incision. This will prevent expulsions. Repeat the procedure until all capsules are inserted.



**Step 8:**

After all the capsules are inserted, apply pressure to the incision with sterile gauze to minimize bruising and to stop bleeding. Then press the edges of the incision together and close it with a butterfly closure. Sutures are not needed.



**Step 9:**

Cover the incision with a dry compress and wrap gauze around the arm to prevent bleeding. Tell the client to keep the bandage clean and dry for 4 days.

---

*Example 8: Protocol*

## Post-Operative Care Protocol (first 24 hours)

### Expected Outcome:

The patient will recover from the surgical procedure without experiencing complications.

### Interventions:

1. Bedrest, turn patient every two hours.
2. Ice chips only, assess for nausea and vomiting
3. Check urine output every hour for first 12 hours (should be 30cc/hour or greater)
4. Monitor IV fluids, assess site every 12 hours
5. Assess for bowel sounds every 8 hours
6. Deep breathe every two hours
7. Assess lungs every 12 hours
8. Assess color and warmth of skin every 8 hours
9. Assess surgical dressing on admission to ward, then every 4 hours
10. Assess need for pain relief, medicate as indicated
11. Explain to patient and family what they can expect regarding care and treatment.

---

*Example 9: Rules and Regulations*

## **Medical Staff Rules and Regulations**

### **Admission and Discharge of Patients**

1. Except in emergencies, all patients admitted to the hospital staff have a provisional or admission diagnosis.
2. Only a member of the medical staff may admit a patient to the hospital. Physician assignment of patients, within departments, shall be on a rotational basis. Physicians not able to provide medical care for a patient when they are on call must make arrangement with another active staff member to assume care.
3. Medical staff members shall be responsible for the medical care and treatment of each hospitalized patient, for the prompt completeness and accuracy of the medical record, for transmitting reports of the condition of the patient to the referring practitioner and to relatives of the patients.
4. Each member of the medical staff shall have a member of the medical staff who may be called to care for his patients in an emergency when the attending physician is not available.

### **A. Medical Records**

1. The attending practitioner shall be responsible for the preparation of a complete and legible medical record for each patient. This record shall include identification data, chief complaint, personal history, family history, history of present illness, physical examination, special reports such as consultations, clinical laboratory and radiology services, and others, provisional diagnosis, medical or surgical treatment, operative report, pathological findings, progress notes, final diagnoses, condition on discharge, summary or discharge note, clinical resume, and autopsy report, when performed.
2. All clinical entries in the patient' medical record shall be accurately dated and authenticated. Authentication means to establish authorship by written signature.
3. To avoid being placed on suspension, medical records are to be completed within 72 hours of a patient's dismissal from the hospital.

### **B. General Conduct of Care**

1. A general consent form, signed by or on behalf of every patient admitted to the hospital, must be obtained at the time of admission.
2. All orders for treatment shall be in writing. A verbal order shall be consider to be in writing if dictated to a registered nurse, or pharmacist.
3. Hospitalized patients should be seen as frequently as their status warrants by the attending physician or his designated alternate. Daily patient visits are desirable.
4. Should the attending physician be absent from town or otherwise unavailable, his designated alternate will assume the responsibility for patient care.
5. When general conduct of care is not carried out as described, the physician will be called before the medical review committee.



---

*Example 10: Specifications*

## Defibrillator Specifications

### Electrical Specifications:

Parameter	Specification
Output energy (delivered)	2, 3, 5, 7, 10, 20, 30, 50, 70, 100, 150, 200, 300, and 360 joules
Waveform	Damped sinusoidal (Lown)
Charge control	Push button on apex paddle and on front panel
Charge time (battery operation)	Less than 5 seconds to 360 joules
Armed indicators	Charge done tone, charge done lamps on front panel and apex paddle, and available energy indicated on display.
Paddles	Standard paddles are anterior/anterior, adult and pediatric. Adult electrodes (83 cm <sup>2</sup> ) slide off to expose pediatric electrodes (21 cm <sup>2</sup> ). Paddle cord is 10-ft. Full range of internal paddles are available.
Synchronizer	An audible beep sounds with each detected R-wave.
Sync LED	Blinks off with each detected R-wave. A marker pulse is output on the synchronizer interface. When in SE mode (Sync ECG), the unit accepts a 1V/mV ECG signal as the synchronizing input. The signal must not be delayed more than 20 ms by the external monitor.
Display size and type	Three 7-segment LEDs.

---

*Example 11: Standing Operating Procedure*

## Pharmacy Department

### Standing Operating Procedure: Medication Errors

1. When a medication error occurs, the person discovering the error will:
  - a) Notify the prescribing physician immediately
  - b) Complete a medication occurrence report
  - c) Have the unit manager and director sign the report
  - d) Document in the patient's chart all medications given to the patient
  - e) If an explanation for an omission is apparent (e.g., patient was away from the nursing unit for tests) that reason should be documented in the record.
  - f) Notify the pharmacist if the error involves the pharmacy.
  
2. All medication errors and potential errors are trended and reported to the pharmacy committee quarterly. All reported serious medication errors (by definition) will be summarized and reviewed by the pharmacy committee. The report will include the severity level/outcome classifications.
  
3. The manager of the area where the medication error occurred will determine the appropriate follow-up actions required based on the seriousness of the errors and document the action plan. (The intent of the action plan is for education rather than punishment.)
  
4. In case of a serious prescribing error, the chairman of the pharmacy committee will consult with the chairman of the medical department of the physician involved.

---

**Example 12: Standing Orders**

**Admitting Orders: Preoperative Cardiac Surgery**

1. Weigh patient, measure height and record
2. Identify allergies, label chart “allergic to \_\_\_\_\_ ”
3. \*Sign consent for: \_\_\_\_\_ surgery
4. Vital signs: record every four hours
5. NPO after midnight
6. Hibiclens shower in the morning: wet body, wash from neck down with 2 oz Hibiclens, rinse well and repeat (Do not apply to face, head, mucus membranes or open wounds).
7. Chest x-ray
8. Electrocardiogram
9. CBC, Basic metabolic panel, and lipid profile
10. Urinalysis (if valve surgery)
11. Type and cross match 2 units of packed red blood cells (Alert surgeon if patient is on anti-platelet therapy)
12. \*Restoril \_\_\_\_\_ mg P.O. q Hs (may repeat once)
13. Nitroglycerin 1/150 gr. Sublingual PRN angina

---

Physician’s Signature

Date

*Attention: The physician must complete starred (\*) items and cross out any items not wanted. The physician must sign all order sheets.*

---

## Glossary

**Administrative policy:** A statement of expectation written by the management of an institution designed to influence and determine decisions and actions.

**Algorithm:** Recommended patient management strategies designed to direct decision-making, such as a structured flowchart, decision tree, or decision grid. Often algorithms are used where rapid decision-making is required, such as an emergency department.

**Clinical pathway:** A patient care management tool that organizes, sequences, and times the major interventions of nursing staff, physicians, and other departments for a particular case type (e.g., normal delivery), subset (e.g., hysterectomy), or condition (e.g., failure to wean). (Zander 1997) Synonyms: critical path, care map.

**Clinical practice guidelines:** A set of systematically developed statements, usually based on scientific evidence, to assist practitioners and patient decision-making about appropriate healthcare for specific clinical circumstances (Field and Lohr 1992). Synonyms: practice guidelines, guidelines, practice parameters.

**Inputs:** The resources required by an organization to provide a service. Inputs required in healthcare are usually financial, physical structures such as buildings, supplies and equipment, personnel, and more importantly, clients. Synonym: structure standards.

**Job descriptions:** A document outlining the roles and responsibilities of a particular position. The purpose of the position as well as the qualifications required for the position are typically included.

**Outcome:** The effect from performance (or nonperformance) of one or more processes or activities carried out by healthcare providers.

**Procedure:** Step-by-step instructions on how to perform a task based on technical and theoretical knowledge. (Marker)

**Process:** A series of related activities and tasks that use the inputs to produce a desired product or outcome.

**Protocol:** A plan, or set of steps, to be followed in a study, an investigation, or an intervention, as in the management of a specific patient condition (e.g., care of a patient with diarrhea).

**Qualifications:** Characteristics such as education, background, and experience that a person brings to a specific position or task.

**Rules and regulations:** A set of one or more statements or directions that specify decisions and actions that must always be followed. Usually they include a penalty for not doing so.

**Specifications:** An explicit statement of the required characteristics of an input used in the healthcare system. The requirements are usually related to supplies, equipment, and physical structures used in the delivery of health services.

**Standard:** An explicit statement of expected quality.

**Standard operating procedures:** Chronological steps to follow and decisions to make in carrying out a task or function. Synonym: management procedure.

---

## References

- Field, M.J. and K.N. Lohr. 1992. *Clinical practice guidelines: Directions for a new program*. Washington, DC: National Academy Press.
- Johnson, M. and M. Maas. 1998. The nursing outcomes classification. *Journal of Nursing Care Quality* 12(5):9–20.
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO). 1997. National library of healthcare indicators. Oakbrook Terrace, IL: JCAHO.
- Marker, C.S. 1988. *The Marker model for standards development*. Severna Park, MD: Marker Systems, Inc.
- Moorhead, S., B. Head, M. Johnson, and M. Maas. 1998. The nursing outcomes taxonomy: Development and coding. *Journal of Nursing Care Quality* 12(6): 56–63.
- National Guideline Clearinghouse. 1999. <[www.guidelines.gov](http://www.guidelines.gov)>.
- North American Nursing Diagnosis Association (NANDA). 1996. *Nursing diagnoses: Definitions and classification 1997–1998*. Philadelphia: NANDA.
- Rasch, R.F.R. 1987. The nature of taxonomy. *Journal of Nursing Scholarship* 19(3):147–49.
- Sokal, R.R. 1974. Classification: Purposes, principles, progress, prospects. *Science* 185(4157):1115–23.
- Zander, K. 1997. Use of variance from clinical paths: Coming of age. *Clinical Performance and Quality Health Care* 5(1):20–30.

