



ANTELOPE
VALLEY
COLLEGE

Health and Safety Sciences

ASSOCIATE DEGREE NURSING PROGRAM

**Mandatory Resource
Manual**

(ADN Student Survival Kit)

Summer/Fall 2022

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ANTELOPE VALLEY COLLEGE
ASSOCIATE DEGREE NURSING PROGRAM

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PURPOSE OF MANUAL

The purpose of this manual is to provide information and guidance to students in the Associate Degree Nursing Program.

Faculty will post updated manuals online each semester and will reinforce any changes with the students. The students are responsible for reviewing the manual and noting any changes.

Material and information in this manual will be referred to throughout the Associate Degree Nursing Program.

This manual was written by the Associate Degree Nursing faculty and cannot be reproduced without their permission.

MODULE 1

PHILOSOPHY AND CONCEPTUAL FRAMEWORK

ANTELOPE VALLEY COLLEGE
ASSOCIATE DEGREE NURSING

PHILOSOPHY

The philosophy of the Associate Degree Nursing (ADN) Program supports and implements the vision and mission of Antelope Valley College and is based on the paradigm of nursing, person, health and environment. The purpose of the program is to provide a quality education that empowers students with the knowledge, skills and caring attitudes to become competent entry-level professional registered nurses, life-long learners, and community service partners.

The nursing faculty believes nursing to be an art and a science that is concerned with maximizing the abilities of the individual to achieve and maintain optimal health. This faculty believes that nursing practice, through a self-care approach wherein the individual takes responsibility for his or her own health care, has a unique contribution to make to society. The uniqueness of nursing is the ability to manage the multiple demands of physical care while addressing the emotional, psychological, social, and spiritual needs of the person, the family, and the community. Nursing coordinates and collaborates with other providers to deliver health care. The nursing process, a problem solving method for meeting people's health and nursing needs, establishes a structure for critical thinking and clinical decision-making. The process involves assessment, problem development, goal setting, implementation, and evaluation to ensure provision of compassionate and coordinated care.

The person is considered a spiritual, cultural, psychosocial and physiological being who is rational and responsible for self. The person is accountable for his or her health care decisions. The faculty acknowledges that personal decision making about health is complex, values the inherent worth and dignity of each person, and believes that competent nursing requires a working partnership with the person.

The faculty believes health is a state of wholeness or integrity of the individual person. Health is a dynamic state in which the individual is in constant interaction with the environment. Health and illness are viewed as on a continuum from optimal well-being to severe illness. The environment represents all that surrounds a person including all conditions, circumstances, and resources. Individuals are constantly in interaction with their environment. An aspect of nursing practice is to examine the relationship between the environment and the health of individuals. A person's progression from birth to death is viewed as a developmental continuum that may intersect the health and illness continuum at any point.

The nursing faculty believes nursing education is a dynamic process that integrates other disciplines in the arts and sciences utilizing the principles of adult learning. Students in a community college reflect a diverse population, and the nursing program utilizes various methodologies to facilitate learning across this population. Instruction progresses from the general to the specific, the usual to the unusual, and the simple to the complex. The faculty encourages and facilitates career mobility. While providing an educational foundation for matriculation with universities and colleges, the nursing program fosters the intellectual, personal and professional development of students.

ANTELOPE VALLEY COLLEGE

ASSOCIATE DEGREE NURSING

CONCEPTUAL FRAMEWORK

The conceptual framework of the Antelope Valley College Associate Degree Nursing Program is based upon the roles and responsibilities of the professional entry level registered nurse as defined in the state's nursing practice act.

The roles and responsibilities of a professional nurse include practitioner, manager of care, scholar, and teacher. Central to the roles of a professional, competent, entry level nurse are core values of caring, excellence and integrity. Integrated throughout the curriculum to equip the professional nurse to carry out desired roles and responsibilities are six concepts derived from Institute of Medicine/ Quality and Safety in Education for Nurses pre-licensure competencies.

The six concepts of patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement, safety, and informatics define essential features of what it means to be a competent nurse. Also integrated into the curriculum is the nursing process which is a problem solving method for meeting people's health care and nursing needs. Finally the concept of advocacy is threaded throughout the curriculum. Advocacy has been recognized as one of the most vital and basic functions of the nursing profession. It is an inherent part of nursing curricula and is present in all clinical practice settings.

Definitions:

Practitioner: One who meets the health care and nursing needs of people. One who plans, implements, and models best practice; one who understands, respects, and values diversity; and one who makes decisions based on professional standards of care and ethical criteria. Inherent in this role is patient advocacy.

Manager of Care: One who assumes responsibility for the actions of others directed toward determining and achieving patient care goals. Essential to this role is the ability to communicate and collaborate with others.

Scholar: One who accesses and uses knowledge. One who is a developing professional and lifelong learner.

Teacher: One who educates people regarding their actual and potential health or illness problems or the treatment thereof. The ability to communicate is a necessary component.

Patient-centered Care: Recognize the patient or designee as the source of control and full partner in providing compassionate and coordinated care based on respect for patient's preferences, values, and needs.

Teamwork and Collaboration: Function effectively within nursing and interprofessional teams, fostering open communication, mutual respect and shared decision-making to achieve quality patient care.

CONCEPTUAL FRAMEWORK (CONTINUED)

Evidence-based Practice: Integrates best current evidence with clinical expertise and patient/family preferences and values for delivery of optimal health care.

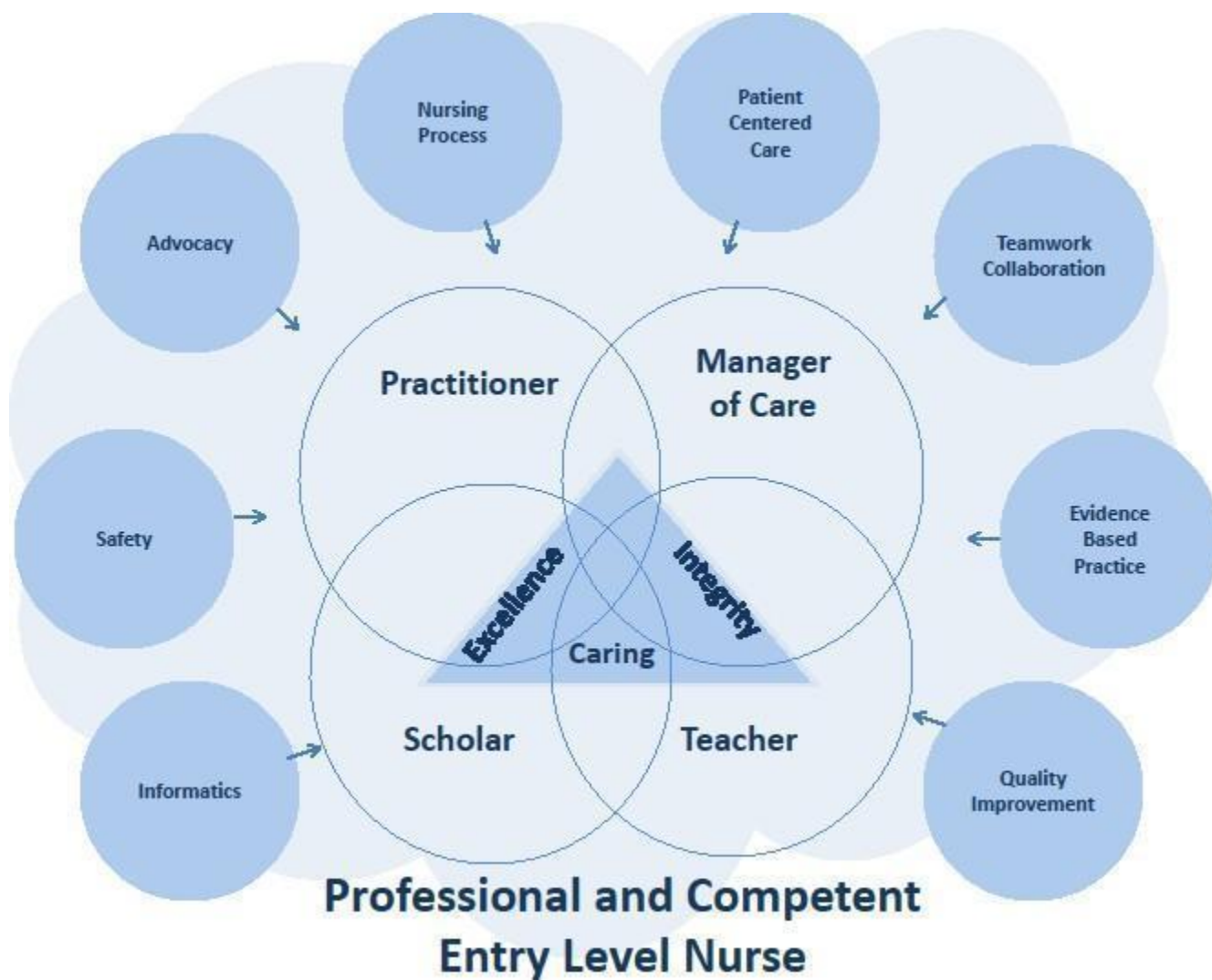
Quality Improvement: Use data to monitor the outcomes of care processes and use improvement methods to design and test changes to continuously improve the quality and safety of health care systems.

Safety: Minimizes risk of harm to patients and providers through both system effectiveness and individual performance.

Informatics: Use information and technology to communicate, manage knowledge, mitigate error, and support decision making.

Nursing Process: A problem solving method for meeting people's health and nursing needs. The five steps of the nursing process include assessment, diagnosis, planning, implementation, and evaluation.

Advocacy: Initiating action to improve health care or change decisions which are against the interests or wishes of the patient, and giving the patient opportunity to make informed decisions regarding care before it is provided. Advocacy is an integral part of nursing.



ANTELOPE VALLEY COLLEGE
ASSOCIATE DEGREE NURSING

GRADUATE LEARNING OUTCOMES

At the conclusion of the program, the student will be able to:

1. Provide quality, safe, patient-centered nursing care using evidence-based practices that result in high quality patient outcomes. (Evidence Based Practice, Safety, Patient Centered Care, Excellence, Practitioner, Manager of Care)
2. Practice as a competent entry level nurse integrating professional standards and ethical and legal principles. (Integrity, Professional Identity, Advocacy, Practitioner, Manager of Care)
3. Participates cooperatively within nursing and multidisciplinary teams respecting the unique and diverse expertise that team members provide. (Teamwork and Collaboration, Manager of Care)
4. Integrate caring relationships into nursing interventions that positively influence health outcomes and demonstrate sensitivity for a diverse patient population. (Advocacy, Patient Centeredness, Caring)
5. Incorporate nursing process and critical thinking principles to make sound clinical judgments necessary for the provision of patient care and continuous quality improvement. (Critical thinking, Quality Improvement, Nursing Process, Teacher)
6. Employ technology to effectively communicate, manage information, prevent errors, and support decision-making. (Informatics, Safety)
7. Exemplifies integrity and commitment to a professional work ethic and lifelong learning. (Professional Behavior, Integrity, Scholar)

ANTELOPE VALLEY COLLEGE
ASSOCIATE DEGREE NURSING

PURPOSE

Antelope Valley College prepares students as Vocational Nurses and/or Associate Degree Nurses in order to help meet the health care needs of the community. These health care needs are met in the following ways:

1. The graduates help the local agencies to meet the demands for nursing personnel.
2. The graduates perform as members of the health care team.
3. By providing quality safe, patient centered nursing care, the graduates improve nursing care in the community.

ANTELOPE VALLEY COLLEGE

ASSOCIATE DEGREE NURSING

PROGRAM LEARNING OUTCOMES (PLOs)

1. Practices nursing within the legal, ethical and regulatory frameworks of nursing and Standards of nursing and standards of professional nursing practice.
2. Uses the nursing process to safely care for patients; reports and documents appropriate Patient information in a timely manner.
3. Uses critical thinking to provide the foundation for appropriate decision making.

MODULE 2

POLICIES AND REGULATIONS

POLICIES AFFECTING DRESS

CLASSROOM ATTIRE ON CAMPUS

The student will follow the policy of Antelope Valley College: No Shirt, No Shoes, No Service.

Nursing students are representatives of their profession. They should be aware of their physical appearance and their interpersonal conduct when engaged in the educational activities of the program.

UNIFORM REQUIREMENTS FOR CLINICAL SITES

Students must wear the approved student uniform to the hospital and clinical agencies. The uniform consists of a white top and ceil blue pants. The jacket and top will be embroidered with the program name on the right upper side of the uniform and below it the school patch embroidered on both the top and the jacket. The ceil blue jacket and ceil blue cap is optional. Uniforms are to be purchased at A&K Uniforms.

Students may not wear unapproved uniforms. No additions to the uniform are permitted, other than the approved optional jacket. In cool environments, students may wear white undergarments that have a rounded neck, but no turtleneck, and sleeves as long as three-quarter length. Sweatshirts, "hoodies," sweaters, or other outerwear may not be worn once the student enters the door of the clinical agency. Items of clothing may not have the wording "registered nurse" or "registered nursing" on them.

Deviations from the uniform may result in disciplinary action, such as being sent home from the clinical agency for the day (considered an unexcused absence) or immediate correction of the deviation, if possible. The clinical instructor will decide whether the uniform deviation can be corrected immediately or not.

White leather or leather like uniform shoes, with closed toes and heels, are required.

Instructions will be given before clinic for dress specific to mental health nursing.

Equipment requirements for the clinical site are:

Photo identification badge	BP Cuff for practice only
Plain white socks or non-textured hose	Pencil
Bandage scissors	Pen with black and red ink
Kelly forceps	Penlight
Watch with a second hand	Stethoscope
Calipers (optional)	Calculator (optional)
Spiral notebook, 3" x 5"	Fine tip black Sharpie pen
	Folding Clipboard

The complete uniform is worn during pre-clinical preparation, simulation or actual clinical practice at all the health agencies and while in the dining room or conference room. The instructor must approve any deviation from the standard uniform. There may be some clinical sites where uniforms are not required; your instructor will inform you of this.

Good hygiene is expected. This includes, but is not limited to, clean hair, absence of body odor, smell of cigarette smoke and halitosis. No perfumes, cologne or other strong fragrances should be applied prior to the clinical experience. Uniforms must be clean and pressed. *The only acceptable jewelry to be worn are wedding rings, wrist watch, medical bracelets, and one pair of small (4 mm) plain studs in pierced lower ear lobes, if you choose to wear earrings.* Visible body piercing jewelry is not permitted. Body art should be covered to the maximum extent possible. Hair style and color (natural color) should be fashioned to promote safety and professionalism, and should be worn above the collar and away from the face. Facial hair must be neatly trimmed and close to the face. No artificial eyelashes, acrylic or gel nails are permitted in the clinical area. No nail polish may be worn. Chewing gum in the clinical facilities is not permitted.

POLICIES AFFECTING ATTENDANCE, GRADES AND ADMISSION

ATTENDANCE

1. It is the policy of Antelope Valley College as stated in the catalog that a college student is expected to attend all sessions of the classes in which he/she is enrolled. It is the responsibility of the student to personally notify the instructor when he/she is ill, to arrange for a make-up day, and to explain the reason for the absence to the instructor. This applies to classroom absence as well as clinical absence.
2. Policies of the Associate Degree Nursing Program:
 - a. Your enrollment in this course constitutes an agreement between yourself and Antelope Valley College and its faculty for this course. Your obligation is to attend class and meet the objectives of the course. Antelope Valley College's and the faculty's obligation is to provide an atmosphere that facilitates learning and opportunities to assist you in successful completion of this course. The attendance policy is on page 26 of this module.
 - b. Orientation is mandatory for all courses. Failure to attend the first clinical day will result in the student being dropped from the course unless the instructor has been notified in advance. Students will not be admitted after the first day of class.
 - c. Students will be given copies of this policy at the beginning of each Nursing Science course. The students are required to sign their copy of this policy. The student is held accountable for the policies and procedures in the most current ADN Resource Manual.
 - d. Absence from class because of death in the family, illness, or a court mandated appearance, is an excused absence. At the discretion of the instructor, a doctor's verification of illness may be requested.
 - e. Requested make-up days for excused absences may be granted at the discretion of the lead and clinical instructor. Make-up days will be considered if a student's request is made during the **first** week of return from illness. Make-ups must constitute a complete clinical day.
 - f. Tardiness to the clinical area is considered in the total evaluation of the day's performance. If the student is 1 minute tardy, this counts as 1 hour absence.
 - g. Absence from a scheduled examination

The student must notify the instructor if it will be necessary to be absent from the examination. The absence must be an excused absence. If the instructor is not notified prior to the examination, the student receives a zero. The examination is taken upon the first day the student returns to class. The examination will be given at the convenience of the instructor. It is the student's responsibility to arrange this with the instructor. Any examination **not** taken will result in a score of 0.
 - h. Absence from clinical

The student is responsible for personal notification of the clinical instructor prior to the beginning of the day.
 - i. Clinical duty hours and breaks

Assigned breaks and lunches must be approved by clinical instructors. Students must remain in the assigned clinical facility or on the campus of the clinical facility during breaks and lunches.
 - j. Assignment to clinical groups

ATTENDANCE (CONTINUED)

Students register for clinical groups according to the schedule of classes. Students who have satisfactorily completed prerequisite courses in first through third semesters are guaranteed space in the class in the subsequent semester.

Students can register for clinical courses for second through fourth semesters once they have met three conditions:

- (1) Students must have satisfactorily completed all prerequisite courses.
- (2) Students must have current physical examinations, CPR cards and tuberculosis testing on file in the division office.
- (3) Students must have a valid registration date.

Up until the first day of the semester, students may use the college registration system to register or switch clinical groups. After the first day of the semester, students cannot trade clinical groups. This refers to short term classes as well, a student cannot register for an 8 week class after the census date.

HEALTH

1. In the event that a student has a health problem that could be unsafe for him/her or others, he/she should not attend the hospital for clinical experience. This decision is the student's responsibility.
2. Upon entry into the program, students will be required to have an initial physical examination by a licensed physician or certified nurse practitioner. The examination must show that the student is free from communicable disease and does not have a physical and/or mental illness that may endanger the health or safety of a patient. Impairment by controlled substances or alcohol during class or clinical experience violates college policy and compromises physical and emotional patient safety. Therefore, impairment by substance abuse or alcohol abuse that affects class or clinical performance is reason for dismissal from the nursing program.
3. The following immunizations are required: measles, mumps, rubella, varicella, Tdap (with boosters), hepatitis B and the seasonal flu vaccine. These are required by health care facilities in which the student will be practicing as a student nurse. The college does not provide immunizations.
4. Upon entry into the program, the student must present a document stating a negative Mantoux skin test. A two-step TB testing procedure will be required for students who allow one year or longer between TB tests. All students must maintain an annual two-step TB test, i.e., two TB tests within a 365 day period during their enrollment in the program. If the student has a positive PPD, a negative chest x-ray (taken within six months) must be submitted upon entry to the program. During enrollment in the program students with a positive PPD must submit an annual chest x-ray or an adult tuberculosis risk assessment questionnaire completed and signed by a licensed health care provider.
5. A physical examination is required on initial admission to the program and annually while the student is enrolled. A complete physical examination will also be required upon re-entry into the program.
6. The complete health history and physical examination form, with copies of your immunization record, blood and urine test results (including titer results, if drawn), IgG (antibody) titer results (if drawn), seasonal flu vaccine and drug/alcohol screen results must be turned into the Nursing

Department office.

GRADES (Also Refer to Antelope Valley College Catalog)

1. A minimum grade of "C" (70%) is mandatory in all required nursing theory and clinical courses. See registered nursing prerequisites for other courses.
2. Students will have a limited amount of time to review exams. Students will have one week after the date of the exam to review their exams.
3. In nursing science courses, the total course grade is based upon both knowledge and performance skills. Theory being taught is concurrently applied in the clinical setting. Clinical performance involves application of theoretical knowledge in a practice setting. The student must be satisfactory in all clinical behaviors on the last clinical day to pass. Therefore, any student unable to meet the clinical performance objectives for the course is considered unsatisfactory and will receive a maximum grade of "D" for the course. The student must receive a course grade of "C" to successfully complete the course.
4. There will be a math exam during weeks 1-2, each during each course taken in the nursing science program. The mandatory passing score for this exam is 90 percent. If the student does not attain a score of 90 percent or higher on the first exam, the student must remediate and retake the exam. The syllabus for the course will indicate the number of retakes allowed and the time frame for completing the exam. If the score is below 90 percent on the final attempt, the student may be dropped from the course.
5. All students will be advised of unsatisfactory performance at the time the unsatisfactory incident occurs, or as soon after as possible. When a student has demonstrated a pattern of unsatisfactory performance, the instructor will arrange a conference with the student. At the conference the instructor will give the student a written summary of the unsatisfactory incidents along with suggestions to assist the student in improving these behaviors. The student, together with the instructor, will develop a plan stating goals to be attained and dates by which the goals must be met. In the event that the goals agreed to in the plan are not met, the student will receive a maximum grade of "D" for the course.
6. If a student receives one "U" or two "Ns" in the same evaluation criteria on their weekly formative evaluation, the instructor may require a conference and there may be possible failure of the course. An unsatisfactory on the last weekly formative evaluation will result in an unsatisfactory grade for the clinical rotation and a maximum grade of "D" for the course.
7. A student may withdraw from the course at any time through the twelfth (12th) week for the first semester course without penalty, and will receive a "W" on the course transcript. After the twelfth week, a letter grade must be given, as stated in the College Catalog. Withdrawal from a short-term course is based upon the number of days in the course, and the individual instructors will give the withdrawal date.
8. Cheating will be handled according to College Board Policy.

ACADEMIC VIOLATIONS

1. Code of Conduct: The Antelope Valley Community College District and the nursing faculty members expect students to conduct themselves in a manner consistent with the educational purposes of the college. Student conduct must reflect the standards of behavior as defined in pursuant sections (Education Code Sections 76030-76037). Student conduct should reflect consideration for the rights of others and students are expected to cooperate with all members of the college and hospital communities. Students shall also respect federal and state laws, board regulations, college regulations, and applicable provisions of civil law.

ACADEMIC VIOLATIONS (CONTINUED)

2. Violation of the Academic Honesty Policy: Dishonesty, including but not limited to, cheating or plagiarism. Plagiarism involves using another's work without giving proper credit, whether done accidentally or on purpose. This includes not only words and ideas, but also graphs, artwork, music, maps, statistics, diagrams, scientific data, software, films, videos, and the like. Plagiarism is plagiarism whether the material is from published or unpublished sources. It does not matter whether ideas are stolen, brought, downloaded from the Internet, or written for the student by someone else – it is still plagiarism.

Even if only bits and pieces of other sources are used, or outside sources reworded, they must still be cited. To avoid problems, students should cite any source(s) and check with the instructor before submitting an assignment or project. Students are always responsible for any plagiarism in their work.

3. An instructor who determines that a student has cheated or plagiarized has the right to give an "F" grade for the assignment or examination.

REASONABLE ACCOMMODATION

Students with disabilities who anticipate they may need reasonable accommodation to participate in the nursing program should contact the Office for Students with Disabilities (OSD). The Nursing Department will work closely with OSD to determine if reasonable accommodations are required to perform essential job functions and identify effective accommodations that would not pose an undue hardship.

TRANSPORTATION

Each student is responsible for his/her own transportation.

CLINICAL EXPERIENCE

No student is to participate in patient care without the permission of an instructor.

All hospital policies must be followed in addition to the college policies. *The hospital may remove a student from the clinical area if deemed unsafe or not following the policies of the institution. This may result in dismissal from the program if the clinical component cannot be met.

A current American Heart Association Cardiopulmonary Resuscitation (BLS for the Health Care Provider) card is required in the clinical area. Please provide a copy to the Nursing Department office via Castlebranch.

INSURANCE

Medical Service

1. Students pay a health fee, which provides physical, dental, vision and mental health services as well as health education and prevention activities.
2. All injuries occurring while in class or laboratory experience must be reported at once to the instructor in that area. It is the responsibility of the instructor to guide the student so that appropriate care is obtained.

Personal Liability Insurance

Students are required to purchase their own personal liability insurance. Information about personal liability insurance is available from the Nursing Department office. Students must show proof of this INSURANCE (CONTINUED)

insurance before their first clinical day and the policy must be maintained during enrollment in the program.

CPR (BLS) Certification

Students are required to be certified in American Heart Association for Healthcare Providers CPR biannually. They must present their CPR card to the Health and Safety Sciences office.

BACKGROUND SCREENING

Students will be required to demonstrate proof that they have completed background screening, through the vendor selected by the program, before they enter the program as this is a clinical agency requirement. Background screening consists of certified agencies examining state and federal records for arrests and convictions, social security number validation, and fraud and abuse complaints. If your background screen reveals a criminal background you will not be allowed to enroll in the nursing program. The healthcare facilities reserve the right to decline any student who has a criminal background. Background and drug screening may occur at any time throughout the program based on requirements of each clinical site.

LICENSURE REQUIREMENT FOR LICENSED VOCATIONAL NURSES

Licensed vocational nurses are required to maintain a license while they are enrolled in the program.

REPORTING PRIOR CONVICTIONS OR DISCIPLINE AGAINST LICENSES

The Board of Registered Nursing (BRN) may deny licensure to individuals who have been convicted of a felony.

Applicants encouraged report all misdemeanor and felony convictions. "Driving under the influence" convictions must be reported. Also, all disciplinary action against an applicant's registered nurse, practical nurse, vocational nurse or other health care related license or certificate should be reported. Also any fine, infraction, or traffic violation over \$1,000 should be reported.

Failure to report prior convictions or disciplinary action is considered falsification of application and is grounds for denial of licensure or revocation of license.

When reporting prior convictions or disciplinary action, **applicants are required to provide a full written explanation of:** circumstances surrounding the arrest(s), conviction(s), and/or disciplinary action(s); the date of incident(s), conviction(s) or disciplinary action(s); specific violation(s) (cite section of law if convicted), court location or jurisdiction, sanctions or penalties imposed and completion dates. Provide **certified** copies of arrest and court documents and/or disciplinary proceedings against any license as a registered nurse or any health care related license; include copies of state board determinations/decisions, citations and letters of reprimand.

NOTE: For drug and alcohol convictions include documents that indicate blood alcohol content (BAC) and sobriety date.

To make a determination in these cases, the Board considers the nature and severity of the offense, additional subsequent acts, recency of acts or crimes, compliance with court sanctions, and evidence of rehabilitation.

The burden of proof lies with the applicant to demonstrate acceptable documented evidence of

rehabilitation. Examples of rehabilitation evidence would include, but not be limited to:

- Recent, dated letter from applicant describing the event and rehabilitative efforts or changes in life to prevent future problems or occurrences.
- Recent and signed letters of reference on official letterhead from employers, nursing instructors, health professionals, professional counselors, parole or probation officers, support group facilitators or sponsors, or other individuals in positions of authority who are knowledgeable about your rehabilitation efforts.
- Letters from recognized recovery programs and/or counselors attesting to current sobriety and length of time of sobriety, if there is a history of alcohol or drug abuse.
- Submit copies of recent work evaluations.
- Proof of community work, schooling, self-improvement efforts.
- Court-issued certificate of rehabilitation or evidence of expungement, proof of compliance with criminal probation or parole, and orders of the court.

All of the above items should be mailed **directly** to the Board by the individual(s) or agency that is providing information about the applicant. Have these items sent to the Board of Registered Nursing, Licensing Unit, P.O. Box 944210, Sacramento, CA 94244-2100.

It is the responsibility of the applicant to provide sufficient rehabilitation evidence on a timely basis so that a licensing determination can be made. All evidence of rehabilitation must be submitted prior to being found eligible for licensure.

An applicant is also required to immediately report, in writing, to the Board any conviction(s) or disciplinary action(s) which occur between the date the application was filed and the date that a California registered nursing license is issued. Failure to report this information is grounds for denial of licensure or revocation of license.

Note: The application must be completed and signed by the applicant under the penalty of perjury.

GRATUITIES

It is unethical to accept gratuities and gifts from patients. In order to maintain a nurse/patient relationship, students should not give gifts to patients.

SUSPENSION OR DISMISSAL

The Nursing Department supports and utilizes the guidelines of student conduct as outlined in the Antelope Valley College Catalog. In the event that unprofessional or incompetent conduct does occur, it will be handled according to college policy.

GRIEVANCE POLICY

The official student discipline policy for Antelope Valley College including due process procedures and grievance policy are contained in Antelope Valley College Administrative Policies #AP 5520 (Procedure for Discipline Related to Standard of Conduct), #AP5530 (Student Rights and Grievance), and Board Policy #BP 5500 (Standard of Conduct). Students are encouraged to discuss any grievance with the course instructor. For further clarification, the Dean of Health and Safety Sciences is available for counseling.

STUDENT ATTENDANCE AT FACULTY, CURRICULUM AND PROGRAM PLANNING AND EVALUATION MEETINGS

Students are encouraged to attend these meetings. Each year a student will be elected by each nursing class to represent them at these meetings. The purpose of this participation is for student input into the nursing program. There may be executive sessions for which students will be excused.

CHANGES IN RECORDS DATA

It is essential that you notify the Nursing Department promptly of all changes of name, address, telephone number, family doctor, and the person to notify in case of emergency. The division office also needs to be notified of changes on applications and transcripts. Students are asked to maintain a current address with the Nursing Department after graduation to assist in maintaining a complete up-to-date record of all students and graduates.

CONFIDENTIALITY

It is the moral and professional responsibility (and obligation) of the nurse to at all times and in all places keep absolute and confidential all information concerning patients. Duplication of any medical record is not permitted. A student must read charts or gather information from charts for the sole purpose of clinical experience and learning. This information should be shared only when a particular patient's care is discussed for the benefit of the entire group under the direction of the instructor.

POLICY REGARDING RE-ENROLLMENT IN NURSING SCIENCE COURSES

Students are expected to complete the registered nursing program in four semesters after initial admission.

Students may re-enroll in the nursing science program once. A student will not be allowed to re-enroll in the program after two unsuccessful completions or withdrawals from any nursing science course.

Re-enrollment to the nursing program will only be available to returning students who have been out of the program three years (36 months) or less. Nursing Science 200A (Nursing Transition) is considered a nursing science course. An attrition form must be completed and a request in writing to be placed on the waitlist based lottery and must be provided to the division office.

Students and faculty often refer to non-progression in the program as “strikes.” Examples of “strikes” are:

Grade of D or F in a nursing science course.

Withdrawal from a nursing science course for any reason after attending any portion of the class or clinical, even if the withdrawal does not appear on a transcript.

In rare circumstances, a student may be eligible for removal of a strike. Circumstances in this category include personal injury, prolonged illness, or similar crises that result in a student's inability to complete a course successfully. If a student is requesting an exception for unsuccessful completion or withdrawal, the student must have satisfactory standing at the time of withdrawal.

The procedure for requesting removal of a strike is:

Student writes a letter explaining the unique circumstances to the Director of Nursing.

Student includes documentation supporting the circumstances with the letter.

Student has an attrition assessment on file.

All requests for removal of strikes must be filed with the Director of Nursing within 30 days of the end of the semester in which the student failed (or received a grade of D) or withdrew from the course.

Requests for removal of strikes are reviewed by the RN faculty. Students are notified of the faculty's decision by mail.

A student who leaves the program during the first semester or receives an unsatisfactory grade at the conclusion of the first semester must submit a new application (including current transcripts showing unsuccessful completion of the first nursing course(s)) to the Nursing Department office. The student must have a completed attrition assessment form on file.

The student will be placed on the list for enrollment in the order in which the application packet is received. All student records will be maintained for 2 years.

Second, third and fourth semester students and students who elected the LVN-to-RN option must submit a letter of intent to re-enroll and an attrition assessment form each time they plan to re-enroll. If the number of students who apply to re-enroll in a course exceeds the number of available spaces in the course, the application date will be used to determine priority. **Re-enrollment is on a "space available" basis.**

Students who fail a course, must complete that course successfully before registering for any other courses in the nursing program.

Students who defer enrollment may defer to the next semester and return to the pool of candidates. They can defer twice in a 2 year period.

Policy Regarding Excused Withdrawal (EW)

An EW on the transcript does not automatically constitute removal of a strike. The student should follow the "removal of a strike" process as listed above if they feel the strike was due to an extenuating circumstance. The student must be in good academic standing at the time of the strike to be considered for strike removal.

POLICY REGARDING STUDENTS LEAVING THE PROGRAM BEFORE GRADUATION

Students must complete an attrition assessment form within seven (7) days of leaving the program. If this form is not completed, the student will not be permitted to re-enter. The student must submit a letter to the Division office stating that they wish to re-enroll before they will be allowed to return.

PHOTO IDENTIFICATION BADGES

Photo identification badges for Antelope Valley College must be purchased through the Student Development Office. The individual instructors will give you information on this. Please do not go to the Student Development Office to purchase your photo identification badge until you are instructed to do so by your instructor.

A photo identification badge is also required for Antelope Valley Hospital. In order to obtain this badge, an intranet/internet (Attachment A) form and badge request form must be signed and submitted to the Nursing Department coordinator. A notification list will be sent to Antelope Valley Hospital's Security Department. The badge authorizations will be generated via those notifications. The student may not work in the hospital without the Antelope Valley Hospital photo identification badge. The badge process changes periodically and the course instructor will give directions to the students during class or on Canvas.

The Antelope Valley Hospital photo identification badges will be collected by the instructor when the student leaves the program and after each course.

Any inappropriate or unauthorized use of the badge may result in the immediate dismissal of the student from the program.

SIMULATION

The guidelines and confidentiality agreement for clinical simulation are on pages 27-28 of this module.

ELECTRONIC DEVICES

The policy regarding the use of electronic devices in the classroom and during clinical experiences is on pages 29-30 of this module.

SOCIAL MEDIA

The National Council of State Boards of Nursing (NCSBN) has taken a position that social media can benefit health care in a variety of ways but can also pose many risks and impact patient safety and care. Nursing students need to be aware that they may be at risk for violating patient privacy and confidentiality through social media. For more information contact communications @ncsbn.org.

What is the BRN Intervention Program?

The Board of Registered Nursing (BRN) is one of several professional regulatory boards and bureaus that exist within the Department of Consumer Affairs. The BRN has the primary responsibility of licensing and regulating registered nurses in California. The BRN's responsibilities come from the Nursing Practice Act, which is composed of California statutes that give the BRN, among other functions, the authority to manage an Intervention Program for registered nurses.

The Intervention Program is a voluntary, confidential program for registered nurses whose practice may be impaired due to chemical dependency or mental illness. The goal of the Intervention Program is to protect the public by early identification of impaired registered nurses and by providing these nurses access to appropriate intervention programs and treatment services. Public safety is protected by suspension of practice, when needed, and by careful monitoring of the nurse.

What Service Does the Program Provide?

For the Public:

- Immediate intervention to protect the public, as an effective alternative to longer disciplinary process.
- Confidential consultation with the concerned public, employers, co-workers, family members, friends and consumers of nursing care.
- Assistance in preparing to talk to a registered nurse about an apparent problem.
- Consultation with employers to assure a safe and smooth transition back to nursing practice for the nurse participant.

For the Registered Nurse in the Program:

- Confidential consultation when considering entering the program.
- Assessment and referral for appropriate detoxification or treatment.
- Development of a rehabilitation plan for chemical dependency or mental illness.
- Consultation with employers to assure a safe and smooth transition back to nursing practice

for the nurse participant.
Random body fluid testing.
Referrals to local support services.
Encouragement, support, and guidance for the registered nurse in recovery as an effective alternative to disciplinary action, and determination that the registered nurse is able to resume nursing practice.

Why is the Program Needed?

BRN INTERVENTION PROGRAM (CONTINUED)

Registered nurses are not immune from the diseases of chemical dependency or mental illness. Experts estimate that at least 10% of the general population will have a problem with alcohol or drugs at some point in their lives. Health care professionals, including registered nurses, may be particularly susceptible to substance abuse problems due to the stresses of working in a health care environment and due to an increased opportunity to obtain controlled substances.

Many registered nurses who experience problems with chemical dependency are able to find the help and support they need to stay clean and sober without BRN involvement.

Mental illness, although not as prevalent, is also a disease that may affect a registered nurse's ability to practice safely. For example, untreated major depression can seriously impair an individual.

Unfortunately, most people suffering from chemical dependency or mental illness deny the problem. Many times they are the last to recognize and admit that they need help. If mental illness or chemical dependency problems are left untreated, they may eventually jeopardize patient health and safety. They can also threaten the life of the person afflicted.

In these cases, it becomes imperative that those individuals who detect a chemical dependency or mental health problem in a registered nurse take action. Without intervention, diseases have predictable courses and outcomes. The BRN's Intervention Program aims to identify symptoms, intervene, and change the outcomes.

The Intervention Program also provides an effective alternative to the traditional disciplinary process.

Who is Eligible?

Registered Nurses Who:

- Are licensed and reside in California.
- Are mentally ill or abuse alcohol or drugs to the extent that their nursing practice may be affected.
- Voluntarily agree to enter the program and provide consent for appropriate medical or psychiatric evaluations.

Registered Nurses are Ineligible for the Program if They Have:

- Previously been disciplined by the Board for chemical dependency or mental illness.
- Been terminated previously from this program, or any other intervention program for non-compliance.
- Diverted controlled substances for sale.
- Caused patient harm or death.

How Does an RN Get Into the Program?

Nurses enter the program in one of two ways:

Self-Referral – Registered nurses who would like assistance may contact the program directly.
Board-Referral - Registered nurses are referred to the Intervention Program by the BRN as a result of a complaint indicating the RN may be impaired due to chemical dependency or mental illness. If a nurse chooses not to enter the program, the complaint is referred to the Enforcement Program for investigation and possible disciplinary action.

BRN INTERVENTION PROGRAM (CONTINUED)

Is the Intervention Program Successful?

Yes! Over 1,900 registered nurses have successfully completed the program. To complete the Intervention Program, a chemically dependent nurse must demonstrate a change in lifestyle that supports continuing recovery and have a minimum of 24 consecutive months of clean, random, body-fluid tests. A nurse with a history of mental illness must demonstrate the ability to identify the symptoms or triggers of the disease and be able to take immediate action to prevent an escalation of the disease.

The success of the Diversion Program is due to close monitoring of participants for an average of three years, but more importantly, it is attributable to the encouragement, support and guidance provided to nurses by other nurses.

Is the Program Confidential?

Intervention Program staff are available for confidential consultation regarding possible referral to the Intervention Program.

The confidentiality of participants is protected by law. Once a nurse enters the program, the information gathered to assist in developing a rehabilitation plan, and all other information in their record, is confidential.

When a nurse successfully completes the Intervention Program, the Intervention Program records are destroyed. If a nurse does not successfully complete the program, the original complaint, if any, is investigated by the Board's Enforcement Program. As of January 1, 2000, Intervention Program records may be forwarded to the Board's Enforcement Program if a registered nurse who is terminated from the Intervention Program presents a threat to the public or his or her own health and safety.

Where Can I Get Additional Information About the Intervention Program?

For general program information, to schedule intake appointments or interventions, and for questions regarding monitoring nurses in the program, call 1-800-522-9198.

For questions regarding the Intervention Program or the Board of Registered Nursing's role in protecting public safety and identifying impaired practitioners, contact the Board's Intervention Program staff at (916) 574-7692.



ASSOCIATE DEGREE NURSING PROGRAM

ATTENDANCE POLICY

It is the policy of Antelope Valley College as stated in the catalog that a college student is expected to attend all sessions of the classes in which he/she is enrolled. Your enrollment in Nursing Science classes constitutes a contractual agreement between yourself, Antelope Valley College and its faculty for the classes. Your obligation is to attend class and meet the objectives of the course. Antelope Valley College's and the faculty's obligation is to provide an atmosphere that facilitates learning and opportunities to assist you in successful completion of this course.

Attendance and punctuality are requirements in demonstrating satisfactory performance in meeting course objectives, as well as vital components of professional behavior and accountability. It is the responsibility of the student to attend class regularly, to notify the instructor when he/she is ill, or will be late, to arrange in advance for unavoidable absences, and to explain the reason for the absences to the instructor. This applies to classroom absences as well as clinical absence.

Lecture hours cannot be made up. The maximum number of lecture hours that may be missed is the number of hours the course meets per week for a 16 week course. These hours are as follows:

Nursing Science 101A	4 hours	Nursing Science 201A	4 hours
Nursing Science 102A	3 hours	Nursing Science 202A	5 hours
Nursing Science 103A	5 hours	Nursing Science 203A	4 hours
Nursing Science 200A	1 hour	Nursing Science 204A	5 hours
		Nursing Science 205A	1 hour

Participation in clinical hours is required in order for faculty to evaluate satisfactory completion of the clinical objectives. A student's failure to participate in the minimum number of clinical hours will result in that student's dismissal from this course. Only excused clinical absences will be allowed to be made up. Absence from class because of death in the family or illness is an excused absence. Each clinical tardy will constitute a minimum absence of one hour. Requested make-up days for excused absences may be granted at the discretion of the lead and clinical instructor. Make-up days will be considered if a student's request is made during the **first** week of return from illness. Make-up days will only be allowed if an entire shift is completed.

The maximum number of clinical hours that may be missed without being made up will vary from course to course based upon the number of hours in each clinic. These hours are as follows:

Nursing Science 101A	6 hours	Nursing Science 201A	1 hour
Nursing Science 102A	4 hours	Nursing Science 202A	4 hours
Nursing Science 103A	4 hours	Nursing Science 203A	4 hours
Nursing Science 200A	1 hour	Nursing Science 204A	4 hours

I have read the Antelope Valley College Associate Degree Nursing Attendance Policy. I understand the contents and I agree to comply with the said policy.

Student's Name (Please Print)

Student's Signature

Date



NURSING SCIENCE COURSES

SIMULATION GUIDELINES

1. Simulations in the skills laboratory are considered clinical hours.
2. Students are to wear the Antelope Valley College nursing uniform and abide by other dress code policies listed in the Mandatory Student Resource Manual.
3. The simulation manikin and room will be considered a patient and hospital room.
4. The performance at the bedside is not graded, but expected professional behaviors will be reflected on the clinical formative evaluation.
5. Students will sign a confidentiality agreement which indicates that the simulations will not be discussed with others outside of the simulation room and debriefing time.
6. When not in the actual simulation students will be expected to:
 - a. Behave professionally.
 - b. Complete assignments provided by the instructor.
 - c. Perform activities pertinent to course content such view videos or use computer programs.
7. Students are expected to come prepared for simulations. This includes reviewing the objectives and completing any assignments. Some courses may include graded assignments or quizzes.



Confidentiality Agreement for Clinical Simulation Nursing Science

I have access to confidential clinical simulation information and need to be aware of and abide by procedures that apply to simulation information.

Confidential simulation information is defined as anything that I, or those individuals with whom I interact, would expect to remain private including information relating to:

- Simulation patients;
- Standardized patients;
- Patient models; and
- Students

As a student, I am required to comply with the clinical simulation guidelines relating to confidential information. I understand that:

1. I may have access to confidential simulation information.
2. I am responsible for protecting all simulation information.
3. Confidential simulation information may only be used as needed to perform my assigned activities. I may:
 - Not share any simulation scenario information with others outside of my clinical group;
 - Not share or disclose specific simulation patient health information;
 - Not share student performance with anyone other than those in my clinical simulation group and clinical faculty;
 - Not misuse or be careless with simulation information.
4. Violating this agreement may subject me to loss of simulation privileges and a clinical unsatisfactory grade in professional behavior.

By signing below, I acknowledge that I have read and understand the above agreement and agree to abide by the terms of this agreement.

PRINTED NAME

DATE OF AGREEMENT

SIGNATURE



ASSOCIATE DEGREE NURSING PROGRAM

Use of Electronic Devices in the Classroom and During Clinical Experiences

Technology use in the classroom is intended to **enhance** the learning environment for all students. Any use of technology that substantially degrades the learning environment, promotes dishonesty or illegal activities will be prohibited by the instructor.

Classroom disruptions: Consistent with Board Policy 5500, it is the course instructor who decides whether student behaviors are disruptive in her/his classroom. If the instructor determines that the student behavior is disruptive the student will be asked to leave the classroom. If a student is asked to leave class, the instructor is not obligated to allow make up of examinations/quizzes or other graded assignments missed during the session in which the student was not in class.

Cellular telephones: Students **must not** abuse the use of cell phones in class. Ringtones **must** be turned off in class. If there is a need to check for and/or receive a call, the student **must** inform the instructor in advance that the student may need to excuse him/herself to take an important call. Students **must not engage in text messaging** in the classroom. Students who create disturbances with ringing cell phones or text messaging may be asked to leave the class session.

Laptop computers: Students are allowed to use laptop computers to take notes and for any other use authorized by the course instructor. However, laptops may not be used for instant messaging, game playing, and Internet surfing during class time.

Audio-video recording devices: Students may be permitted to record during classroom sessions at the discretion of the instructor. All devices must be on the desk/table surface in full visibility of the instructor. All recording devices must be turned off during classroom breaks. Recording devices must be turned off when the instructor or a student shares a patient-based or personal story. All recordings are for the personal use of the student. They may not be copied, shared or downloaded to anyone who is not a member of the class. Recordings must not be posted on any online site. All recordings must be deleted after the course content has been tested.

Electronic devices and academic dishonesty: As students at Antelope Valley College you are required to uphold academic honesty in all aspects. Any student who, during an examination, quiz or examination review is found "in possession" of a wireless transmitting/receiving/recording device shall be assumed to possess said device(s) for the purpose of academic dishonesty, and shall receive a zero on the examination or quiz in question. Said devices include but are not limited to: cellular telephones, smart watches, computers, cameras, electronic recorders, MP3 players, PDAs and similar devices.

Students who bring an electronic device to an examination, quiz, or examination review are to place those devices on the instructor's desk or in a backpack in the front of the room during the exam or exam review.

Electronic devices and illegal activities: An instructor will prohibit activities that she/he knows will violate laws, such as those related to intellectual property rights, confidentiality, copyrights, or invasions of privacy.



ASSOCIATE DEGREE NURSING PROGRAM

Use of Electronic Devices in the Classroom and During Clinical Experiences

The use of personal cellular phones or other wireless communication devices must be used with discretion and a heightened awareness with regard to confidentiality and HIPAA protection. All facility policies will be enforced.

Cellular telephones: Personal cell phones must be turned off when in the clinical setting. Students are expected to discuss appropriate times for phone calls with their families and friends, letting them know that during clinical time the caller will need to leave a message and the student can address the issues during break.

Wireless communication devices: Cell phones or resource material downloaded to a wireless device may only be used in the break rooms. Electronic devices are not allowed to be used in patient care rooms or in the patient care corridors.

Camera: Under **no** circumstances may a camera be operated within patient care areas.

Students who violate the standards for the use of electronic devices during clinical experiences in the healthcare facilities and within patient care areas subject themselves to HIPAA violation claims which could result in legal actions.

I have read the Antelope Valley College Associate Degree Nursing Electronic Devices Policy. I understand the contents and I agree to comply with the said policy.

Student's Name (Please Print)

Student's Signature

Date



ASSOCIATE DEGREE NURSING PROGRAM

Academic Honesty Policy

Academic Honesty Understanding:

I, _____, agree that I will not:
Print Name

- Talk to anybody about any exam that I have or have not taken of any type in this course or any other nursing course, whether or not the other person has taken the same exam.
- Copy, photograph or in any manner replicate any exam in part or whole in this or any other course.
- I also understand that it is ethically imperative that any instance of a violation of the above understanding be reported to the instructor immediately.
- Finally, I also acknowledge that any violation of the above understanding may result in a zero on the exam in question.

Student's Name (please print)

Student's Signature

Date



ASSOCIATE DEGREE NURSING PROGRAM Mandatory Resource Manual Receipt

I received, viewed or printed a copy of the Mandatory Student Resource Manual. The Associate Degree Nursing Program policies in the manual were explained, and I had an opportunity to ask questions about the policies.

If I fail or withdraw from any nursing science course, I must apply for re-admission. *If I fail or withdraw from NS 101A, I must submit a new application, updated education plan, current transcript, and an attrition assessment form.* If I fail or withdraw from any other nursing science course, I must write a letter of intent to re-enter and complete an attrition assessment form. If the number of students who wish to re-enter the course that I want to enter exceeds the number of spaces available in the course, there will be a lottery for the spaces.

If I fail or withdraw from any nursing science course a total of two times (including NS 200A), I will no longer be eligible to re-enter the Antelope Valley College Associate Degree Nursing Program.

I understand that I must have all immunizations up-to-date in order to register for the next nursing science class in the program. I must have a TB test, chest x-ray or risk assessment and physical examination annually. Background screening, urine drug testing, and personal liability insurance are required. If I do not meet clinical agency health and background requirements, I will not be permitted to attend clinic.

I understand that I must surrender my hospital photo identification badge to my instructor if I fail a course, withdraw from a course, finish the program, or when the instructor or program administration requests the badge.

I understand the policies for:

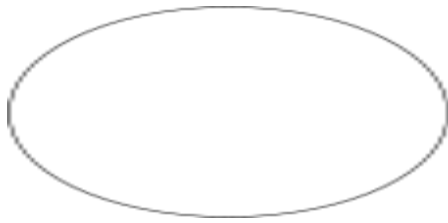
- Uniforms
- Absence from a scheduled examination
- Health requirements and personal liability insurance
- Grades needed to progress in the program
- Withdrawal
- Repeating Nursing Science courses
- Photo identification badges
- Electronic Devices
- Simulation
- Attendance

Print name

Signature

Date

ANTELOPE VALLEY HOSPITAL PARKING



PALMDALE REGIONAL MEDICAL CENTER PARKING

MODULE 3

NURSING PROCESS AND NURSING CARE PLANS

QUOTATIONS

THE FOLLOWING ARE SOME QUOTATIONS ABOUT NURSING THAT WE WOULD LIKE TO SHARE WITH YOU.

"Nursing puts us in touch with being human ... Without even asking, nurses are invited into the inner spaces of other people's existence for where there is suffering, loneliness, the tolerable pain of cure or the solitary pain of permanent change, there is a need for the kind of human service we call nursing."

Donna Diers

"The new professionalism calls for us to have a clear sense of direction, to be well focused in our priorities and to be unified in their pursuit ... We must assert a distinct, sharp image, developing and brandishing our highest profile in what we do and what we are."

Margretta M. Styles

"Patients have a right to freedom of choice. They have a right to participate in their treatment, to be well informed and allowed to use free will ... We must endeavor, at the local, national and international level, to let it be known that we nurses are united in our thinking and in our actions to work for freedom for all."

Olive Anstey

"To the nurse ... in touch with the fundamentals of human experience, is given a unique opportunity to relate the adventure of thought to the adventure of action."

Annie W. Goodrich

"A renewed consciousness is emerging in nursing today. It brings with it a gentle power, a sense of autonomy and a commitment to facilitate health. In particular, it brings a renewed awareness of the special way in which human caring is intrinsic in nursing practice."

Marie-Therese Connell

"The true measure of the value of nursing rests in the degree to which it modifies the health behavior of others."

R.B. Freeman

"Nursing requires an effort of considerable intellectual acuity - which looks to an outsider like intuition - to thread one's way through all the knowledge, technique and tenderness one has and to come out with the right action to serve the patient's particular needs."

Donna Diers

QUOTATIONS (CONTINUED)

"... so finally we have learned that health really does lie in restoring independence, not merely ministering to illness."

Leah Curtin

"Nursing is the appraisal and enhancement of the health status, health assets, and health potentials of human beings, and the preservation of dignity appropriate to their humanity."

Rozella M. Schlotfeldt

"To nurse is to tend the flow of life in ways that facilitate growth in the direction of wholeness and health."

Marie Therese Connell

"There are three major features of a fully human way of being: being aware, being willing to act and being responsible. These ideas about what it means to be human can find expression in what is the most meaningful of professions, the practice of nursing."

Susan L. Carter

"No matter where care is delivered, no matter what the pathophysiologic process, no matter how many lines, medications, or pieces of equipment are involved, nursing's unique role is to care for the person."

Sarah Sanford

ILLNESS ORIENTED OLD ASSUMPTIONS	HEALTH PROMOTION
Body seen as machine in good or bad repair	Body seen as a dynamic system – psycho/ socio/biological
Disease or disability seen as a thing, entity	Disease or disability seen as a process
Specialized/separate	Integrated, concerned with the whole patient
Emphasis on eliminating symptoms, disease	Emphasis on achieving wellness
Primary intervention: drugs, surgery	Intervention with appropriate technology, complemented with various non-invasive techniques (diet, exercise, stress control, biofeedback, etc.)
Patient is dependent	Patient is autonomous
Professional is authority	Professional is therapeutic partner
Prevention largely environmental – protection from disease causing organisms or substances	Prevention synonymous with wholeness: work, relationships, goals, body-mind-spirit

(Taylor, 2015)

DEFINITION OF NURSING PROCESS

The nursing process is a systematic method that directs the nurse and patient, as together they accomplish the following:

1. Assess the patient to determine the need for nursing care.
2. Determine nursing diagnoses for actual and potential health problems.
3. Identify expected outcomes and plan care.
4. Implement the care.
5. Evaluate the results. (Taylor, Chapter 11, Pages 214-215; figure 10-4 and table 10-2.)

SUGGESTED NURSING DIAGNOSES

Safety

Health maintenance, alteration in
Risk for infection
Risk for injury (potential for poisoning; for suffocation; for trauma)
Skin integrity, impaired (allergies)
Violence, risk for: self-directed or other-directed

Nutrition

Breastfeeding, effective
Breastfeeding, ineffective
Breastfeeding, interrupted
Impaired swallowing
Infant feeding pattern, ineffective
Nutrition, alteration in: more than body requirements
Nutrition, alteration in: less than body requirements
Nutrition, alteration in: actual
Nutrition, alteration in: risk
Oral mucous membrane, alteration in
Risk for aspiration
Self-care deficit (less able to feed self)

Fluid and Electrolytes

Fluid volume deficit, actual
Fluid volume deficit, risk
Fluid volume excess
Oral mucous membrane, alteration in

Oxygenation

Airway clearance, ineffective
Breathing pattern, ineffective
Cardiac output, alteration in: decreased
Gas exchange, impaired
Peripheral neurovascular dysfunction, high risk for
Risk for suffocation
Tissue perfusion, alteration in: cerebral, cardiopulmonary, renal, gastrointestinal, peripheral
Ventilation, inability to sustain spontaneous
Ventilator weaning response, dysfunctional

SUGGESTED NURSING DIAGNOSES (CONTINUED)

Rest/Activity

Activity intolerance, actual
Activity intolerance, risk for
Disuse syndrome, high risk for
Dysreflexia
Impaired physical mobility
Impaired tissue integrity
Self-care deficit
Skin integrity impairment, actual
Skin integrity impairment, high risk for impaired
Sleep pattern disturbance

Elimination

Bowel elimination, alteration in: constipation
Bowel elimination, alteration in: diarrhea
Constipation, colonic
Constipation, perceived
Functional incontinence
Incontinence, bowel
Reflex incontinence
Self-care deficit
Skin integrity impairment, actual
Skin integrity impairment, risk for
Stress incontinence
Total incontinence
Urinary elimination, alteration in patterns
Urinary retention

Communication

Social isolation
Impaired verbal communication
Spiritual distress (inability to carry out rituals)
Social interaction, impaired
Diversional activity deficit

Comfort

Alteration in comfort, chronic pain
Alteration in comfort, pain

SUGGESTED NURSING DIAGNOSES (CONTINUED)

Psychosocial

Altered sexuality patterns
Anxiety, fear
Caregiver role strain
Caregiver role strain, high risk
Coping, defensive
Coping: ineffective individual
Decisional conflict
Hopelessness
Knowledge deficit
Parental role conflict
Personal identity disturbance
Post-trauma response
Powerlessness
Rape/trauma syndrome
Role performance, altered
Self-esteem, chronic low
Self-esteem, disturbance
Self-esteem, situational low
Self-mutilation, high risk for
Sensory perceptions, alteration in: visual, auditory, kinesthetic, gustatory, tactile, olfactory
Sexual dysfunction
Spiritual distress
Thought processes, alteration in
Unilateral neglect

SUGGESTED NURSING DIAGNOSES

Maturation: Progress toward higher stages of organization

Altered growth and development
Altered sexuality patterns
Body image disturbance
Caregiver role strain
Caregiver role strain, high risk
Coping: ineffective family, compromised
Coping: ineffective family, disabling
Coping: potential for family growth
Diversional activity deficit
Family process, alteration in
Impaired social interaction
Impaired verbal communication
Ineffective family coping
Ineffective breastfeeding
Ineffective infant feeding patterns
Knowledge deficit
Parental role conflict
Parenting, alteration in
Risk for injury
Protection, altered
Role performance, altered
Sensory/perceptual alteration
Sexual dysfunction
Spiritual distress
Violence, risk for

MINI CARE PLAN

Student:

Date:

Patient's Initials:

Age:

Gender:

Room Number:

Chief Complaint:

Medical Diagnosis:

Deficiency (Problem)	
-----------------------------	--

-

<p>Focused Assessment Supporting the Deficiency (Problem) Subjective and Objective Data</p>	
<p>Nursing Diagnosis NANDA: R/T _____</p>	
<p>Goal Short Term and Measurable</p>	
<p>Nursing Interventions 3 nursing actions Who/What/How/When</p>	<p>1.</p> <p>2.</p>

	3.
Evaluation Of the Goal	

MINI CARE PLAN

Criteria	Excellent	Satisfactory	Unsatisfactory
Demographic Chief complaint medical diagnosis		<ul style="list-style-type: none"> ● Patient initials ● Age and gender ● Chief complaint ● Medical Diagnosis <p style="text-align: right;">Points: 0.25</p>	<ul style="list-style-type: none"> ● Missing more than 1 piece of information <p style="text-align: right;">Points: 0</p>
Deficiency (Problem)		<ul style="list-style-type: none"> ● The deficiency is well supported in the assessment <p style="text-align: right;">Points: 0.25</p>	<ul style="list-style-type: none"> ● The deficiency is not well supported in the assessment. <p style="text-align: right;">Points: 0</p>
Focused Assessment	<ul style="list-style-type: none"> ● Only data pertinent to the identified deficiency. ● Includes all relevant subjective/objective data <p style="text-align: right;">Points: 1.5</p>	<ul style="list-style-type: none"> ● Includes some data not relevant to deficiency/problem ● Missing one important piece of assessment data <p style="text-align: right;">Points: 1</p>	<ul style="list-style-type: none"> ● Includes data not relevant to deficiency/problem and/or does not include all subjective/objective data ● Missing more than one important pieces of assessment data <p style="text-align: right;">Points: 0</p>
Nursing Diagnosis		<ul style="list-style-type: none"> ● The nursing diagnosis is correctly worded and reflects the deficiency/problem. ● The diagnosis is a priority concern <p style="text-align: right;">Points: 0.5</p>	<ul style="list-style-type: none"> ● The nursing diagnosis is not correctly worded and does not reflect a priority concern. <p style="text-align: right;">Points: 0</p>
Goal		<ul style="list-style-type: none"> ● Goal correlates with the deficiency/problem and nursing diagnosis. ● Goal is patient centered. ● Goal has a time frame. ● Goal is measurable and realistic. <p style="text-align: right;">Points: 0.5</p>	<ul style="list-style-type: none"> ● Goal does not address the deficiency/problem or nursing diagnosis. ● Goal is not patient centered. ● Goal has no time frame. ● Goal is not measurable or realistic. <p style="text-align: right;">Points: 0</p>
Interventions	<ul style="list-style-type: none"> ● 3 appropriate active interventions for the stated goal that you (student) could carry out independently or inter-dependently ● All interventions are correctly stated and have a timeframe <p style="text-align: right;">Points 1.5</p>	<ul style="list-style-type: none"> ● 2 appropriate active interventions for the stated goal that you (student) could carry out independently or inter-dependently ● One or more interventions is not correctly stated or timed <p style="text-align: right;">Points: 1</p>	<ul style="list-style-type: none"> ● Less than 2 appropriate active interventions for the stated goal that you (student) could carry out independently or inter-dependently <p style="text-align: right;">Points: 0</p>

Evaluation		<ul style="list-style-type: none"> Clearly stated evaluation for the goal. <p style="text-align: right;">Points: 0.5</p>	<ul style="list-style-type: none"> Does not clearly state evaluation for the goal. Evaluates interventions instead of goal. <p style="text-align: right;">Points: 0</p>
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ASSESSMENT GUIDE

1. Safety

Ventilation, lighting, humidity, noise, odors, arrangement of objects in physical environment, equipment, orientation-disorientation to environment, use of safety devices (bedrails, restraints, etc.), sensory deficits (hearing, visual, tactile, kinesthetic), aesthetic factors, presence of infectious disease or infected wound barriers to cross infection, known allergies, potential or existing hazards, medications (side/toxic effects), heat/cold treatments, impaired skin integrity (incision, IV, foley, etc.), impaired immune system, WBC.

2. Maintenance of Oxygenation

Airway patency, respiratory rate, depth, character, breath sounds, posture, body position, cough, secretions, skin color, color of mucous membranes, respiratory aides, tolerance to activity, history of pulmonary or circulatory problems, environmental factors, apical pulse, peripheral pulses (volume, rate, rhythm), blood pressure (position, arm, postural changes), medications affecting respiratory/circulatory system, present body temperature, recent temperature variations, environmental factors affecting vital signs, disease conditions present that affect respiratory/circulatory status, peripheral circulation, TED hose. Laboratory and diagnostic studies: chest x-ray, pulmonary function test, blood gases, CBC, TIBC, clotting studies, etc.

3. Maintenance of Nutrition

Height, weight (gain/loss pattern), usual dietary habits, present dietary intake, usual meal spacing, food preferences, age and caloric requirements, attitudes toward eating, non-oral means of intake (parenteral, nasogastric, gastrostomy), medications affecting absorption, nausea and vomiting, eructation, flatulence, swallowing ability, condition of mouth, teeth and gums, GI motility, appetite (hunger, satiety, anorexia), condition of hair and nails.

4. Maintenance of Fluid and Electrolytes

Average daily fluid intake and output, balance or imbalance of intake and output, sources of intake or loss, edema (presence, absence, location, degree), sources of intake and loss relating to potassium, chloride, sodium, bicarbonate, disease and disorders affecting fluid balance, state of hydration or dehydration. Laboratory and diagnostic studies: Hct, Hg, Sp. Gr., Lytes.

5. Provision of Care Associated with Elimination Processes and Excrements

Skin color, appearance, rashes, character of any lesions present, areas of redness, pigmentation, factors predisposing to skin breakdown, cleanliness, warmth, odor, usual hygiene habits and practices in relation to elimination, secretions, pruritis, bladder habits, frequency of micturition, characteristics of urine (color, odor, unusual constituents), incontinence, retention, aids to urine elimination, medications influencing GI system, artificial

orifices for urine elimination and methods of care. Laboratory tests: urinalysis, clean voided specimens, S and A, etc.). Bowel habits, time of usual defecation, alteration with hospitalization, frequency and character (amount, color, consistency, odor, unusual constituents), aids to elimination, medications affecting elimination, artificial orifices for bowel elimination and method of care, flatulence, fecal impaction, incontinence, hemorrhoid, method of eliminating (toilet, commode, bedpan). Laboratory and diagnostic studies: ova-parasites, fecal fat, guaiac, GI series, endoscopy. Kidney function tests: BUN, Creatinine,

ASSESSMENT GUIDE (CONTINUED)

Lytes.

6. Maintenance of a Balance Between Activity and Rest

Condition of skin at pressure points, activity restrictions/limitations, mechanical devices for assistance, gait endurance, general movement (coordination, stability), muscle strength, tone and mass, range of motion, posture, handedness, deformities, paralysis, weakness, rehabilitative measures, usual sleep patterns, alterations due to hospitalization, medications affecting sleep, usual bedtime and arising time, number of arousals, position for sleep, measures to induce sleep (drinks, reading, bath, medications), environmental conditions, number and length of naps, exercise, type of activity, frequency, duration, presence of pain or discomfort (location, duration, degree, extent, character, precipitating factors), use of aids to relieve pain and discomfort (medications, comfort measures), response to medications or comfort measures, conditions lessening ability to tolerate pain, pain threshold.

7. Communication

Presence/absence of roommate, solitary and social activities, visitors (who, when, how many), phone calls, flowers, gifts, presence of television/phone/radio, depression, withdrawn, anxious, isolates self, ability/inability to leave hospital room including isolation requirements, arrangement of environment conducive for visitors, presence/absence of uninterrupted time for visitors, level of consciousness, ability to verbalize, communication skills, living arrangements at home, spiritual assessment, medications altering mood or emotional response, awareness of reality, presence/absence of privacy.

8. Promotion of Psychosocial

Threats to biological integrity or self-esteem, actual or potential, interference with necessary satisfaction of basic needs, loss of control related to decisions and choices affecting one's self, loss of identity, changes in body image, loss of personal space, effects of health status on sexuality, effects of health status on role with family and significant others, modification of lifestyle or self-concept due to illness, possession/lack of self-esteem including feelings of dependence/independence, desire, knowledge, and ability to engage in self-care.

9. Maintenance of Comfort

Presence/absence of pain.

DEVELOPMENTAL ASSESSMENT GUIDE

Human development from the initial period of intrauterine life to the fullness of adult maturation requires the formation and the maintenance of conditions that promote known developmental processes at each period of the life cycle. Developmental self-care requisites are associated with human developmental processes and with conditions and events occurring during various stages of the life cycle and events that can adversely affect development. Developmental self-care requisites can be categorized as:

- A. Maturation; or
- B. Situational.

A. Maturation

Conditions that promote progress toward higher stages of organization/maturation. The bringing about and maintenance of living conditions that support life processes and promote the processes of physical, cognitive and emotional development including growth and maturation.

1. Environment: physical setting, people, economic and social components.
2. Age.
3. Education.
4. Present knowledge, skills and attitudes and ability to acquire knowledge and skills appropriate to the following developmental stages:
 - a. Intrauterine stages of life and the process of birth -
 - (1) Nutrition
 - (2) Smoking, drinking, drugs
 - (3) Prenatal care
 - (4) Childbirth classes
 - b. Neonatal stage of life -
 - (1) Term, premature, post-term
 - (2) SGA, AGA, LGA
 - c. Infancy (see pediatrics textbook for norms).
 - d. Childhood, adolescence, entry into adulthood, adulthood (Erik Erickson).
 - e. Pregnancy -
 - (1) Planned, unplanned
 - (2) Wanted, unwanted
 - (3) Age
 - (4) Single parent
 - (5) Prenatal care
 - (6) Ability to care for child

DEVELOPMENTAL ASSESSMENT GUIDE (CONTINUED)

B. Situational

Prevention of deleterious effects on development/situation. Provision of care either to prevent the occurrence of deleterious effects of conditions that can affect human development or to decrease or overcome these effects from conditions such as the following:

1. Educational deprivation -
 - a. Lack of knowledge.
 - b. Ability to learn.
 - c. Past learning experiences.
2. Problems of social adaptation.
3. Failure of individuation -
 - a. Erickson's developmental stages/signs of failure to attain.
4. Loss of relatives, friends, associates -
 - a. When did loss occur?
 - b. Why and how did loss occur?
 - c. Who was lost and what was the meaning of the loss to the person?
 - d. Is the loss potential, temporary or permanent?
5. Loss of occupational security and/or possessions -
 - a. When, why and how did loss occur?
 - b. Is loss potential, temporary or permanent?
6. Abrupt change of residence to an unfamiliar environment -
 - a. Why, how and when did change occur?
 - b. Is it potential, temporary or permanent?
7. Status-associated problems -
 - a. Will patient status be affected by the condition?
 - b. Will it be readily observable or able to be concealed?
 - c. Is it potential, temporary or permanent?
8. Poor health or disability -
 - a. How does it affect ADL?
 - b. How does it affect ability for growth, development and maturation?
 - c. Is it potential, temporary or permanent?

DEVELOPMENTAL ASSESSMENT GUIDE (CONTINUED)

9. Oppressive living conditions -
 - a. How do they affect ability to deal with the condition?
 - b. How long have they been this way?
 - c. What is the potential for change?

10. Terminal illness and impending death -
 - a. Patient and family awareness.
 - b. Stage of death and dying (Kubler-Ross).
 - c. Support systems available.
 - d. Cause of illness.

Physical Assessment Worksheet

Criteria	Findings	Comments
Vital Signs	T____P____R____BP____Pain____	Location:
General Appearance	Hygiene: BB/PB/Shower/Oral Care/Pericare Posture: Erect/Slumped Gait: _____ HT____WT_____	Activity:
Neuromuscular	LOC: Alert/Oriented (Time/Place/Person/Situation) Confused/Lethargic/Unresponsive PERRL____/Size____ Extremities: RU____LU____RL____LL____ (Use S-strong, W-weak, A-absent)	Describe Deficits
Pulmonary	Breath Sounds: Clear/Rales/Rhonchi/Wheezing Diminished Respirations: Labored____Unlabored____ Mucous Membranes: Pink/Pale/Moist/Dry Oxygen: _____ Pulse Ox: _____	Treatments:
Cardiac	Apical Pulse____Rhythm: Reg/Irreg Peripheral Pulses: Radial- R/L Pedal- R/L Capillary Refill: R____L____ Edema: Location/ Depth_____ Homan's R____L_____	
Gastrointestinal	Appearance: flat/distended/soft/firm Tenderness: _____ _____ Bowel Sounds: _____ % Meals Taken: _____ Date of Last BM: _____ Bowel Habits: _____ Intake: _____ Output: _____	
Genitourinary	Voiding/Ostomy/Foley: Size_____ Urine Color & Appearance : _____ Continent/Incontinent	
Integumentary	Appearance: Warm/Dry/Cool/Cold/Diaphoretic Color: Pink/Pale/Jaundiced/Cyanotic Braden Score: _____ Pressure Ulcers: Location_____ Stage____Size_____ _____ Dressings: _____	Treatments:
Equipment	IV site____Appearance_ Insertion Date____ _____ Tubes: NG/ GT/ Other_____	
Pertinent Lab Data	Date/Test/Result_____ Date/Test/Result_____ Date/Test/Result_____	

Social/Family Assessment	Developmental Level: _____ Family Support: _____ Living Situation: _____	
Plan of Care for the Day	Name/Indications/Side Effects for each	Goal Met? If not, why?

NURSING PROCESS GOAL STATEMENT SHEET

GOALS MUST:

- Be specific, objective and measurable.
- Include a subject, action verb, performance criteria, special conditions, target time.
- Be realistic and achievable.
- Have the patient as the subject.
- Be mutually agreed upon with the patient.
- Include a date for evaluation.
- Indicate that the problem is solved.

DO NOT USE

Normal

More

Less

Satisfactory

Feels

Understands

Fluid volume deficit

Drinks 8 glasses of water

DO USE

Temperature less than 99⁶

80% of meal

Pain remains less than 3

Will nurse 5 minutes each breast
Patient will walk length of hallway with use of walker 3 x day by 10/18.

Output greater than 1500 ml

Urine light yellow

Mucus membranes moist and pink



CAUTION:

You must state goals according to our criteria.

PURPOSES OF NURSING CARE PLANS/CLINICAL WORKSHEETS

	FORMAT	PURPOSE
1. Institutional Care Plans	Concise Problem Goal Actions Evaluation	Guide to patient care.
2. Student Care Plans	More elaborate. Assessment Diagnosis Goal Scientific rationale Evaluation	Learn problem-solving process. Improve organizational skills. Application of theory in a practice situation. Learn the process of planning care.
3. Clinical Worksheets	Template	Apply the pathophysiology to a patient case. Includes patient data and prescribed nursing actions. Also uses QSEN and principles of the NCLEX test plan.

"In the educational setting the purpose of writing a care plan is not to teach students to write a care plan, but to help students learn how to plan care."

Antelope Valley College

Name: _____

Clinical Application Worksheet

Date: _____

Diagnosis or Concept:

Patient initials: _____

Room # _____

Date of care: _____

Related Medical Conditions/Diagnosis:	Related Concepts:
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Related Concepts with Application from Lecture and Reading
<p>Pathophysiology:</p> <p>Usual Signs and Symptoms:</p> <p>Risk factors:</p> <p>Usual Management of care:</p> <p>Diagnostics:</p> <p>Medical Treatments:</p> <p>Medications:</p> <p style="text-align: right;"><i>***Reference and cite resources.</i></p>

INFORMATION BELOW IS SPECIFIC TO THE PATIENT:

Priority Physical Assessments & Why 1. 2. 3.	Priority Labs/Diagnostics & Findings <i>Actual Values & Results with Implications</i> 1. 2. 3.	Priority Active Nursing Interventions 1. 2. 3.
Priority Medications & Actions 1. 2. 3.	Priority Complications, related to <i>Actual and/or Potential</i> 1. 2. 3.	Priority Collaborative Goals <i>Who is Involved, Must be Measurable</i> 1. 2. 3.

CARE ACCORDING TO THE NCLEX TEST PLAN

For each CLIENT NEED example include and list which INTEGRATED PROCESS applies (include at least one INTEGRATED PROCESS per client need). The integrated process should demonstrate how the client need was met through nursing care that was planned and/or delivered.

INTEGRATED PROCESSES: Nursing Process, Caring, Communication & Documentation, Teaching/Learning, Culture & Spirituality

CLIENT NEEDS

Safe and effective care: Management of Care, Safety and Infection Control

Health Promotion and Maintenance

Psychosocial Integrity

Physiological Integrity: Basic Care and Comfort, Pharmacological and Parenteral Therapies, Reduction of Risk Potential, Physiological Adaptation

CARE ACCORDING TO QSEN

Patient-Centered Care

Teamwork and Collaboration

Evidence-Based Practice

Quality Improvement

Safety

Informatics

Criteria	Excellent	Satisfactory	Unsatisfactory
EKG (Med Surg only)		<ul style="list-style-type: none"> Submits EKG with Clinical Worksheet 	<ul style="list-style-type: none"> Does not submit EKG with Clinical Worksheet <p style="text-align: right;">-1 Pt</p>
All sections complete		<ul style="list-style-type: none"> Complete all sections 	<ul style="list-style-type: none"> If not all sections complete <p style="text-align: right;">-1 Pt</p>
Related Concepts		<ul style="list-style-type: none"> Lists 1-3 concepts that relate to the identified problem/diagnosis. <p style="text-align: right;">0.1 Pts.</p>	<ul style="list-style-type: none"> Missing 1 or more concepts. Concepts do not relate to problem/diagnosis <p style="text-align: right;">0 Pts.</p>
Understanding of Diagnosis with Application from Lecture and Reading (Pathophysiology, Signs and Symptoms, Risk Factors)	<p>For each of the areas, include the following:</p> <ul style="list-style-type: none"> Identifies pathophysiology of problem/concept. Identifies usual signs and symptoms of problem/concept. Identifies risk factors associated with identified problem/concept. Lists reference information. Each area has 3 sentences minimum. <p style="text-align: right;">0.3 Pts.</p>	<p>For each of the areas, include 50% the following:</p> <ul style="list-style-type: none"> Identifies pathophysiology of problem/concept. Identifies usual signs and symptoms of problem/concept. Identifies risk factors associated with identified problem/concept. Lists reference information. Less than 3 sentences each area <p style="text-align: right;">0.1 Pts.</p>	<p>For each of the areas, include less than 50% of the following:</p> <ul style="list-style-type: none"> Does not use lecture/classroom information. Does not list reference information. <p style="text-align: right;">0 Pts.</p>
Usual Management of Care (Diagnostics, Medical Treatments, Medications)	<p>For each of the areas, include the following:</p> <ul style="list-style-type: none"> Identifies diagnostics used to identify problem/concept. Identifies typical medical treatments for problem/concept. Identifies typical medications used to treat problem/concept. Lists source/reference of information. <p style="text-align: right;">0.4 Pts.</p>	<p>For each of the areas, include 50% the following:</p> <ul style="list-style-type: none"> Identifies diagnostics used to identify problem/concept. Identifies typical medical treatments for problem/concept. Identifies typical medications used to treat problem/concept. Lists source/reference of information. <p style="text-align: right;">0.2 Pts.</p>	<p>For each of the areas, include less than 50% of the following:</p> <ul style="list-style-type: none"> Identifies 1 or fewer facts related to problem/concept. Does not list source of information or reference. <p style="text-align: right;">0 Pts.</p>
Priority Assessments	<ul style="list-style-type: none"> List 3 priority assessments for stated problem/concept with rationale. Includes patient assessment data. <p style="text-align: right;">1.2 Pts.</p>	<ul style="list-style-type: none"> Lists 3 assessments for stated problem/concept with rationale. At least 1 assessment is not a priority.. Includes patient assessment data. <p style="text-align: right;">0.6 Pts.</p>	<ul style="list-style-type: none"> Does not include 3 assessments. Does not include patient assessment data. <p style="text-align: right;">0 Pts.</p>
Priority Labs and Diagnostics	<ul style="list-style-type: none"> List 3 priority lab/diagnostic tests. Includes actual patient lab values and implications for condition for all 3 tests. <p style="text-align: right;">1.2 Pts.</p>	<ul style="list-style-type: none"> List 3 lab/diagnostic tests. At least 1 test is not a priority. Includes actual patient lab values and implications for condition for at least 1 test. <p style="text-align: right;">0.6 Pts.</p>	<ul style="list-style-type: none"> Lists less than 3 priority lab/diagnostic tests. Lab/diagnostic test does not relate to problem/concept or actual values not listed with implication. Lists labs not pertinent to diagnosis. <p style="text-align: right;">0 Pts.</p>
Priority Active Nursing Interventions	<ul style="list-style-type: none"> Identify 3 active priority nursing interventions for stated problem/concept. <p style="text-align: right;">1.2 Pts.</p>	<ul style="list-style-type: none"> Identify 3 active nursing interventions for stated problem/concept. At least 1 is not a nursing intervention or is an assessment. <p style="text-align: right;">0.6 Pts.</p>	<ul style="list-style-type: none"> Lists less than 3 active priority nursing interventions for stated problem/concept. States assess or monitor. <p style="text-align: right;">0 Pts.</p>

<p>Priority Medications and Actions</p>	<ul style="list-style-type: none"> List 3 priority medications and mechanism of actions for stated problem/concept. Includes rationale for patient receiving medication. <p>1.2 Pts.</p>	<ul style="list-style-type: none"> List 3 medications and mechanism of actions for stated problem/concept. At least 1 medication is not a priority. Includes rationale for patient receiving medication. <p>0.6 Pts.</p>	<ul style="list-style-type: none"> Lists less than 3 priority medications or missing mechanisms of action. Medications are not priority. Does not include rationale for patient receiving medication. <p>0 Pts.</p>
<p>Priority Complications (actual and/or potential)</p>	<ul style="list-style-type: none"> List 3 priority complications and states how the complication is related to the patient problem/concept. Labels each complication with actual or potential. <p>1.2 Pts.</p>	<ul style="list-style-type: none"> List 3 complications and states how the complication is related to the patient problem/concept. At least 1 does not relate to the patient problem/concept/ Labels each complication with actual or potential. <p>0.6 Pts.</p>	<ul style="list-style-type: none"> Lists less than 3 priority complications and what the complication is related to. Does not label each complication with actual or potential. <p>0 Pts.</p>
<p>Priority Collaborative Goals</p>	<ul style="list-style-type: none"> Lists 3 collaborative goals and who is involved in each goal. Each goal is measurable with date and time of anticipated completion. <p>1.2 Pts.</p>	<ul style="list-style-type: none"> Lists 3 collaborative goals and who is involved in each goal. At least 1 does not include another discipline to collaborate with. <p>0.6 Pts.</p>	<ul style="list-style-type: none"> Lists less than 3 collaborative goals. Does not list who is involved in each goal. Goal is not measurable. <p>0 Pts.</p>
<p>Care According the NCLEX Test Plan</p>	<ul style="list-style-type: none"> Gives an example of nursing care provided under each subtitle of client needs (4 areas). Includes one integrated process for each client need (4 areas). Each area has 3 sentences minimum. <p>0.8 Pts.</p>	<ul style="list-style-type: none"> Gives an example of nursing care provided under 3 out of 4 areas of client needs. Includes an integrated process for 3 out of 4 areas of client needs. Each area has 2 sentences or less. <p>0.4 Pt.</p>	<ul style="list-style-type: none"> Gives an example of nursing care provided under 2 areas or fewer of client needs. Includes an integrated process of 2 or fewer areas of client needs. Each area has 1 sentence or less. <p>0 Pts.</p>
<p>Care According to QSEN</p>	<ul style="list-style-type: none"> Give an example of nursing care provided under each of the 6 areas in QSEN. Each area has 3 sentences minimum. <p>1.2 Pts.</p>	<ul style="list-style-type: none"> Given an example of nursing care provided for 4-5 areas in QSEN. Each area has 2 sentences or less. <p>0.6 Pt.</p>	<ul style="list-style-type: none"> Give an example of nursing care provided for 3 or fewer QSEN areas. Each area has 1 sentence or less. <p>0 Pts.</p>
<p>Total ____/10</p>			

How to

Antelope Valley College
Clinical Worksheet

Name: _____

Date: _____

Diagnosis: _____ *Focus of this worksheet*

Patient initials: _____

Room # _____

Date of care: _____

Related Medical Conditions/Diagnosis:

Conditions the patient has that contributed to the above Dx

Related Concepts: (Examples:) Obtain from Lippincott coursepoint

Acid-base	fluid/electrolyte	oxygenation	Tissue integrity
Comfort	Infection	Perfusion	Mood
Culture	Inflammation	Safety	Reproductive
Elimination	Metabolism	Thermoregulation	

Understanding of Diagnosis with Application from Lecture and Reading

Pathophysiology:

3 sentences min.

Usual Signs and Symptoms:

Risk factors:

Usual Management of care:

Diagnostics:

Medical Treatments:

Medications:

Related to diagnosis

** Everything should have dates & times*

Citation: textbook, journal...

****Reference and cite resources.*

INFORMATION BELOW IS SPECIFIC TO THE PATIENT:

Priority Physical Assessments to Establish Nursing Plan of Care & Why	Priority Labs/Diagnostics & Findings <i>Actual Values & Results with Implications</i>	Priority Active Independent Nursing Interventions
<ol style="list-style-type: none"> 1. <i>What was your assignment?</i> 2. <i>Include patient data.</i> 3. 	<ol style="list-style-type: none"> 1. <i>Be sure to include what the labs</i> 2. <i>or results of test means.</i> 3. <i>Why is it important?</i> <p style="text-align: center;"><u>Do not</u> include all labs</p>	<ol style="list-style-type: none"> 1. <i>Independent <u>action not</u></i> 2. <i>assess/monitor.</i> 3. <i>What would <u>you</u> do?</i>

Priority Medications & Actions	Priority Complications, related to	Priority Collaborative Goals										
<i>Drug action must correlate to priorities for patient management of care</i>	<i>Actual and/or Potential, listed as a nursing diagnosis</i>	<i>Who is Involved from healthcare team, Must be measurable</i>										
1. 2. <i>Related to main diagnosis</i> <i>Main action indicated</i> 3.	1. <i>NANDA related to _____</i> 2. <i>State "actual or potential"</i> 3. <i>* 2 actual 1 potential</i>	1. <i>You are the RN here, not SN</i> 2. <i>Include: (for example)</i> 3. <i>Who you are working with</i> <table border="0" style="display: inline-table; vertical-align: middle;"> <tr> <td rowspan="3" style="font-size: 3em; vertical-align: middle;">{</td> <td>MD</td> <td>Wound RN</td> <td>OR staff</td> </tr> <tr> <td>RT</td> <td>Dietitian</td> <td>Dialysis</td> </tr> <tr> <td>Pharm</td> <td>PT/OT/speech</td> <td>Case mgmt</td> </tr> </table>	{	MD	Wound RN	OR staff	RT	Dietitian	Dialysis	Pharm	PT/OT/speech	Case mgmt
{	MD	Wound RN		OR staff								
	RT	Dietitian		Dialysis								
	Pharm	PT/OT/speech	Case mgmt									

CARE ACCORDING TO THE NCLEX TEST PLAN *3 sentences each*

For each CLIENT NEED example include and list which INTEGRATED PROCESS applies (include at least one INTEGRATED PROCESS per client need). The integrated process should demonstrate how the client need was met through nursing care that was planned and/or delivered.

INTEGRATED PROCESSES: Nursing Process, Caring, Communication & Documentation, Teaching/Learning, Culture & Spirituality

CLIENT NEEDS

Safe and effective care: Management of Care, Safety and Infection Control

Health Promotion and Maintenance

*Be specific.
How did you perform these for this patient*

Psychosocial Integrity

Physiological Integrity: Basic Care and Comfort, Pharmacological and Parenteral Therapies, Reduction of Risk Potential, Physiological Adaptation

More info

CARE ACCORDING TO QSEN

Patient-Centered Care

3 sentences each

Teamwork and Collaboration

Evidence-Based Practice

Quality Improvement

Safety

Informatics

Link these to the current patient

More description

MODULE 4

**SURVIVAL SKILLS FOR
ADN STUDENTS**

ORIENTATION TO THE MULTIMEDIA TEACHING APPROACH

Our nursing science classes are built on a multimedia approach. Our emphasis is on learning rather than on teaching. In order for the student to succeed with the multimedia approach to learning, he/she should:

1. Read the objectives for each module. Determine the application of the objective to the different steps of the nursing process.
2. Read ALL of the required readings. Create a reading schedule to stay on track, it is possible. Read the content before the lecture. Develop questions to be answered while reading the text.
3. Read the required lecture notes. PowerPoint notes are often available prior to the lecture and should be reviewed.
4. Supplement the above by utilizing the computer software, audio-visual materials, NCLEX question review and laboratory practice to meet the objectives.
5. Seek help from the instructor and skills lab coordinator when needed.

WHAT SHOULD YOU STUDY?

1. Buy all the required reading texts before class starts and begin reading now.
2. Do all the reading, make a schedule. Get it done.
3. Define key terms and make up a good example of the use of each one.
4. Practice critical thinking exercises in textbooks, study guides, digital software, and the textbook websites. These are best done when first reading the content.
5. Points emphasized in class or text or lecture notes: If the instructor repeated anything or drew attention to it by writing it on the board, or used emphasis words like "most significant," "the chief cause," etc., take special note of that point.
6. Study the objectives for each module, do this after completing the reading, to test your comprehension.
7. Make practice questions using the nursing process to frame them.

SUGGESTIONS FOR STRESS MANAGEMENT

1. Find support systems and study groups.
2. Remember the value of exercise. Find the type of exercise that appeals to **you** on a daily basis, whether it is walking, jogging, or an aerobic dance class.
3. Find a hobby, something you truly enjoy, and one in which you can forget the tensions of the day.
4. Sleep **is** important. Give yourself a wind-down time that is non-school related before going to bed. (Reading a light novel, listening to music; whatever works for you!)
5. Provide yourself with leisure time. Don't laugh, we mean it, do something fun.
6. Be realistic and flexible when setting your personal goals.
7. Consider seeking outside help when you feel that you are experiencing overwhelming stress. Use your ASO card for free psychological counseling.
8. Attitude **does** make a difference! Minimize problems by emphasizing a positive attitude.
9. Remember the value of good nutrition. A person who eats wisely is better able to deal with stress. Also, cut down or eliminate caffeinated beverages - coffee, tea, cola, or diet beverages. Try herb teas or bottled waters. Minimize sweets and junk foods. Emphasize foods you like that are good for you.
10. Use relaxation techniques or tapes when needed, you will learn some in class.
11. Have a family meeting to gain support for your efforts.
12. Make some new friends in your courses, you have a lot in common with each other; don't think you are the only one.
13. Make a study plan/schedule and stick to it.

STRATEGIES FOR ANSWERING MULTIPLE CHOICE QUESTIONS

CHARACTERISTICS OF MULTIPLE CHOICE QUESTIONS

The first part of a multiple choice question is called the stem and the choices that are given for answers are called options. Both of these questions have four options: a, b, c and d. Also, they both illustrate two important characteristics of multiple choice questions: (1) they should be clearly stated; and (2) there should be only one correct answer.

1. Which of the following is the most common cause of death among Americans?
 - a. Cancer of the lungs.
 - b. Coronary heart disease.
 - c. Stroke.
 - d. Hypertension.

The correct answer to the question is option b.

Many times you will be asked to determine the best right answer, or the first of four reasonable actions you need to take in response to the question being asked. These questions are used to determine your understanding and use of the content.

1. Which of the following actions **best** represent an elderly patient who is demonstrating compliance in supporting bone health?
 - a. Assures daily sun exposure of a minimum of one hour daily after eating leafy green vegetables.
 - b. Daily walks, supplements diet with calcium and vitamin D capsules.
 - c. Drinks a glass of whole milk with each meal.
 - d. Walks weekly at a moderate pace, eats leafy green vegetables twice a week.

The correct answer to the question is option d.

Multiple choice questions can also be questions followed by possible answers. This example is a question followed by possible answers to it. It is a simple question/answer to determine recall of material.

2. Which of the following medications is in the pharmacological category of 'antihypertensive'?
 - a. Allopurinol.
 - b. Clarithromycin.
 - c. Lisinopril.
 - d. Morphine.

The correct answer to the question is option c.

BASIC STRATEGY FOR MULTIPLE CHOICE QUESTIONS

Multiple choice questions provide one option which is the correct answer and the other options which are distractors. The theory is that correct answers should be selected only by students who know correct answers and other students should be "distracted" and select one of the other options/distractors. Therefore, the strategy to use when answering a multiple choice question is to decide which options are distractors and to select as the correct answer the option that is not a distractor.

One way to identify distractors is to analyze a multiple choice question as though it is a series of true/false questions. The following question may be analyzed in this way.

1. Reduced urine production can result from which of the following?
 - a. Diuretic drug effect.
 - b. Improved renal flow.
 - c. Increased cardiac output.
 - d. Reduced fluid intake.

This question, like most multiple choice questions, is actually a series of true/false questions, only one of which is "true".

- Reduced urine production results from a diuretic drug effect (F)
- Reduced urine production results from improved renal flow (F)
- Reduced urine production results from increased cardiac output (F)
- Reduced urine production results from reduced fluid intake (T)

When you answer multiple choice questions, cross out each option that you decide is a distracter. For example:

- a. Diuretic drug effect.
- ~~b. Improved renal flow.~~
- ~~c. Increased cardiac output.~~
- d. Reduced fluid intake.

In this example, a student has decided that reduced urine production results not from, improved renal flow or increased cardiac output. She has decided the correct answer must be either drug effect or reduced fluid intake, and eventually she will decide that one of these options is a distracter and cross it out too, then select as the correct answer, the option she has decided is not a distracter. The correct answer is option d.

SELECT THE ANSWER YOU LEARNED

The questions on college tests are based on application of the information that is printed in course reading material or that is stated during class lectures or discussions. Keep this in mind and you will avoid making unnecessary errors when you answer multiple choice questions.

For example, students in a course on diabetes learn that obese people have an increased incidence of insulin resistant diabetes. Some of the students become confused when asked to answer the following question:

1. The incidence of diabetes in obese persons is which of the following?
 - a. Increased.
 - b. Parallel.
 - c. Unchanged.
 - d. Unknown.

The correct answer is increased, but some students are confused by the option parallel and select it. This is an example of an extremely poor test-taking strategy. Since test questions are almost always based on information presented in a course, it is irrational to select an answer because it is not known. The only time an unfamiliar term or phrase should be selected as the correct answer to a question is when it has been determined that all of the other options are distractors.

UNDERLINE NOT, EXCEPT, INCORRECT AND FALSE

Many multiple choice questions are answered incorrectly because students fail to observe the words not, except, incorrect and false.

It is absolutely essential for you to find: not, except, incorrect and false in stems because if you do not find them you may select incorrect answers.

DON'T BE CONFUSED BY EXAMPLES

Sometimes multiple choice questions have an example in the stem or a series of examples for options. The following question might appear on a test regarding the planning of patient care.

1. The very experienced nurse wishes to have a written plan of care for an elderly post operative patient. The plan needs to include goals for resumption of walking and eating. Which of the following diagnoses will best serve this patient in achieving the goal?
 - a. Acute pain, related to surgical incision.
 - b. Risk of immobility related to pain.
 - c. Risk of infection related to surgical incision.
 - d. Risk of injury related fall after opioid administration.

Some students are unnecessarily confused by questions such as this one. They worry, for example, what the importance of the nurse's experience is and what it was they were supposed to have learned about being experienced in prioritizing nursing diagnosis.

DON'T BE CONFUSED BY EXAMPLES (CONTINUED)

The question, though, is not about experience or prioritizing, it is about a diagnosis for walking and eating. It could have been written this way:

2. Which of the following nursing diagnoses would address the need for a patient to walk?
 - a. Acute pain, related to surgical incision.
 - b. Risk of immobility related to pain.
 - c. Risk of infection related to surgical incision.
 - d. Risk of injury related fall after opioid administration.

Option b is the correct answer to both questions. Do not be distracted by the examples in the stems of multiple choice questions. Instead, try to imagine how the stem would be worded if it did not include an example.

DON'T BE CONFUSED BY SEQUENCES

Multiple choice questions about sequences often cause unnecessary difficulty for some students. The following question might appear on a test for a psychology, sociology, or health education course.

1. Which of the following is the correct sequence of developmental stages for Erickson?
 - a. Trust versus Mistrust, Autonomy Vs Shame, Doubt.
 - b. Industry versus Inferiority, Trust Vs Mistrust.
 - c. Generative versus Self Absorption and Stagnation, Industry Vs Inferiority.
 - d. Integrity versus Despair, Trust Vs Mistrust.

Students who study sequences will know that the Trust Vs Mistrust stage comes first and that options b and d are, therefore, distractors. They will draw lines through these two options and examine options b and c to decide which of them lists the sequence they studied. The correct answer is a.

ABSOLUTE STATEMENTS MAY BE INCORRECT ANSWERS

Absolute statements exclude all possibilities except the one they state. For example:

All patients hate hospital food.

There is no student who enjoys taking tests.

If there is one patient who likes hospital food or one student who enjoys taking tests, these statements are false. Absolute statements often include words such as every, all, always, invariably, best, no, none, never, and worst. These and similar words in the options of multiple choice questions are clues that the options may be distractors.

On the other hand, words such as many, most, usually, generally, frequently, often, seldom, and some tend to appear in correct answers. For example:

Many patients do not like hospital food.

Students generally do not enjoy taking tests.

ABSOLUTE STATEMENTS MAY BE INCORRECT ANSWERS (CONTINUED)

These statements are probably true. When you have difficulty selecting the correct answer to a multiple choice question, you will sometimes find help by remembering that statements are probably incorrect when they include words such as all or never, and they are probably correct when they include words such as some or seldom.

HIGH OR LOW NUMBERS MAY BE INCORRECT ANSWERS

Some multiple choice questions have options that are a series of numbers. For example:

1. The oxygen flow rate to a nasal cannula should not exceed how many liters per minute?
 - a. 1 LPM.
 - b. 3 LPM.
 - c. 5 LPM.
 - d. 7 LPM.

When you must guess at a correct number to questions of this type, you are likely to increase your chance of selecting the correct answer if you eliminate the lowest and highest numbers and select from the other options. The correct answer is option c.

Of course, you should always answer test questions using information you have learned. However, studies of multiple choice questions have found that when options are a series of numbers, chances are that the correct answer is not the highest or lowest number in the series.

ALL OF THE ABOVE MAY BE THE CORRECT ANSWER

While rarely used the following example may be helpful.

There is a definite tendency for the option all of the above to be the correct answer to multiple choice questions. All of the above often serves the same function as a more complete answer. Compare the following questions:

1. Nursing assessment of pain reported by a patient should include which of the following?
 - a. Effect on ADLs.
 - b. Location, radiation.
 - c. Quantity, quality.
 - d. All of the above.

Also, when you know that two options are correct and a third option is all of the above, you know that all of the above is the correct answer.

ONE OF TWO SIMILAR LOOKING ANSWERS MAY BE CORRECT

When two options for a multiple choice question are similar looking, the correct answer is likely to be one of the two similar looking options. For example:

1. The loss of all sensation in your hand would most likely result from which of the following?
 - a. Aphasia.
 - b. Hallucinations.
 - c. Damage to afferent spinal nerves.
 - d. Damage to efferent spinal nerves.

Options c and d are very similar looking; the correct answer is option c. Experienced question writers usually write multiple choice questions so that test-takers will not be able to use this clue to correct answers.

SELECT ALL THAT APPLY (SATA) TYPE QUESTIONS

These questions have multiple correct answers and can have 1 to all answers correct.

A patient had a posterolateral total hip replacement 2 days ago. What should the nurse include in the patient's plan of care? **Select all that apply.**

1. When using a walker, encourage the patient to point the toes inward.
 2. Position a pillow between the legs to maintain abduction.
 3. Allow the patient to be in the supine position or in the lateral position on the unoperated side.
 4. So not allow the patient to bend down to tie or slip on shoes.
 5. Place ice on the incision after physical therapy.
- (2 , 3, 4, 5)

You are required to indicate all that are correct for the question without prioritizing the response.

The nurse must begin teaching a newly diagnosed type I diabetic self-care. In what order should the information be presented to the patient?

- a. Activity planning.
- b. Pathophysiology of diabetes.
- c. When to call the physician.
- d. Diet.

(b, c, d, a)

Unless you are told that you will be severely penalized for incorrect answers, always select an answer for every multiple choice question, even if you must guess at some answers. When you guess at any answer to a multiple choice question with four options (a, b, c, and d) you have a 25 percent chance of guessing the correct answer. When you guess at an answer to a multiple choice question that has five options (a, b, c, d and e) you have a 20 percent chance of guessing the correct answer.

STUDENT GUIDE TEST TAKING STRATEGIES

PART 1: STRATEGIES TO USE DURING THE TEST

A. Read the Question Carefully

1. Keys in the question:
 - a. Who?
 - b. What?
 - c. When?
 - d. What for?

Question #1

To prevent respiratory complications in the patient who has had abdominal surgery, what nursing actions are of highest priority in the postoperative period?

- a. Monitor vital signs every hour until stable.
- b. Encourage coughing and deep breathing every two hours.
- c. Apply anti-embolism stockings.
- d. Administer pain medications as ordered.

Who?

What?

When?

What

for?

Question #2

To prevent circulatory complications in the patient who has had abdominal surgery, what nursing actions are of highest priority in the postoperative period?

- a. Monitor vital signs every hour until stable.
- b. Encourage coughing and deep breathing every two hours.
- c. Apply anti-embolism stockings.
- d. Administer pain medications as ordered.

Who?

What?

When?

What

for?

TEST TAKING STRATEGIES (CONTINUED)

Question #3

A 38 year old woman had an abdominal hysterectomy. The nurse is giving preoperative instructions to the woman and her husband. Which statement by the husband indicates to the nurse that more instruction is needed?

- a. "My wife will need extra rest for a while when she comes home from the hospital."
- b. "I will do the grocery shopping for two weeks after she comes home from the hospital."
- c. "I will call the doctor if there is a lot of bleeding."
- d. "We will wait a few months before trying to have another baby."

Who?

What?

When?

What

for?

Question #4

Which statement indicates the best understanding by the nurse regarding range of motion exercises?

- a. All hospitalized persons should have passive range of motion exercises performed.
- b. Active range of motion exercises should not be performed by persons who have had joint replacement surgery.
- c. Range of motion exercises are usually appropriate for immobilized patients.
- d. The nurse should never perform passive range of motion exercises without a written order from the physician.

Who?

What?

When?

What

for?

Question #5

The nurse is caring for a newly admitted patient who is in danger of going into shock. While assessing the patient, the nurse should understand which of the following about shock?

- a. Blood loss is always present.
- b. Respirations will decrease.
- c. Blood pressure rises.
- d. Respirations may increase.

Who?

What?

When?

What

for?

TEST TAKING STRATEGIES (CONTINUED)

Question #6

The patient is receiving Thorazine. What side effect must the nurse assess the patient for because he is taking Thorazine?

- a. Hypertension.
- b. Elevated blood pressure.
- c. Orthostatic hypotension.
- d. Increased vital signs.

Who?

What?

When?

What

for?

Question #7

Before taking vital signs, the nurse must:

- a. Count the pulse for 30 seconds and multiply by 2.
- b. Count respirations for one full minute.
- c. Pump the blood pressure cuff higher than the patient's usual systolic pressure.
- d. Wash hands.

Who?

What?

When?

What

for?

Question #8

The nurse is teaching the patient dietary sources of iron. Which answer the patient gives indicates a need for more instruction?

- a. Spinach.
- b. Broccoli.
- c. Collard greens.
- d. Yogurt.

Who?

What?

When?

What

for?

TEST TAKING STRATEGIES (CONTINUED)

Question #9

The nurse is caring for a three-year-old child with a congenital heart defect. The child has a low tolerance for frustration and always wants to have his way immediately. The nurse understands that the primary reason the child with a congenital heart defect has difficulty dealing with frustration is that children with heart defects:

- a. Are frequently tired.
- b. Have had little chance to learn to deal with frustrations.
- c. Have usually been "spoiled" by their families.
- d. Are emotionally immature.

Who?

What?

When?

What

for?

MAKE NOTES FOR STUDYING

MAKE NOTES FOR STUDYING

1. Preview before you read and prepare critical thinking questions to be answered.
2. Skim sections of chapters.
3. Read and underline with a purpose.
4. Decide what you want to study.
5. Make notes for studying. Keep notes as simple as possible. Use outline form. Keep words to a minimum.
6. Recite information you want to learn, use flashcards and recorded information when you have time. Such as during haircuts and waiting in line.

THE IMPORTANCE OF NOTES

There are three reasons it is important for you to make notes for the things you want to learn in your books.

1. The simple act of writing information in notes will often help you learn it

When you make notes, you process information in your mind to state ideas in your words.

2. Written notes reduce the amount of information you need to learn

When you make notes, you are forced to decide what you will and will not learn; the notes for a book do not include all the information in the book. Also, good notes condense information by summarizing it in fewer words than are used in books.

3. Your notes are organized in ways that make it easier for you to learn information

Textbooks are organized to make information understandable to most college students; they are not written with the intention that you will study directly from them. But the notes you make are organized to make it possible for you to learn information in ways that are most efficient and meaningful to you.

Notes for books may be written on notebook paper or on 3 x 5 index cards.

After underlining or highlighting a chapter of a book and deciding what information you will study in it, use the following guidelines to write notes on paper or cards:

1. Write titles for notes that describe exactly what you want to learn.
2. List the information about topics in your notes in ways that will help you to learn it.
3. Include examples in your notes. Imagine this information applying to or coming from a patient or patient situation.

THE IMPORTANCE OF NOTES (CONTINUED)

Headings in textbooks will often give you all the help you need to write descriptive titles for notes. When headings for sections of chapters are not very descriptive of the information they explain, rewrite the titles to make them more descriptive. Use words such as method, types, comparison, benefits, characteristics and sequence to write descriptive titles for your notes. Descriptive titles will help you remember information correctly and recall it accurately.

List information in notes so it will be easy for you to learn.

Examples are included in notes because they aid in understanding the meanings of terms and the explanations of concepts.

If you do not have the habit of using examples to help you in understanding and remembering terms and concepts, you are likely to be pleased when you start using them. Students often report that their ability to remember and recall increases dramatically as a result of studying examples in books and thinking of their own examples.

STUDY GROUPS

STUDY GROUPS

If you are not already in a study group, shop around for one. If you can't find one, start one. If you are hesitant just try it out and see how you like it. For example, organize a temporary group to prepare for one event such as a major exam or a massive project. If you like studying and working together, you can meet on a more permanent basis.

Your schedule is most likely to mesh with those of other students in your clinical rotation. See if you can interest a half dozen of them in joining you.

Successful study groups have certain ground rules. For the group to be effective, every nursing student in it must agree to the following:

1. Understand and accept the group purpose or mission.
2. Contribute ideas, information, opinions, and feelings.
3. Invite and encourage other members to do the same.
4. Listen intently.
5. Demonstrate respect and support for other members.
6. Help keep the discussion relevant.
7. Periodically help summarize the major points.
8. Give examples and share pertinent clinical experiences.
9. Refrain from eating, smoking, or knitting during the session.

HOW TO MAKE A GOOD STUDY GROUP BETTER

Time

Always meet at the same time.

Place

Always meet at the same place.

Begin

Always begin on time.

Monitor

Appoint a monitor to keep the group on target and the discussion moving. Focus on the here and now. Don't let the group spend too much time dwelling in the past or fretting about the future.

Goal

At the beginning of the session, state the goal.

"Today we will discuss Chapters 4 and 5," or "This group is reviewing for the anatomy midterm."

STUDY GROUPS (CONTINUED)

Discuss

Allow free-flowing of discussion anything relevant to the group's goal. Identify major concepts, clarify discrepancies between text and lecture, share examples from clinical experience, and relate theory to practice. If questions arise that cannot be quickly and accurately answered, don't waste time pooling ignorance. Appoint one member to check with the instructor and report back to the group.

Review

Review lecture notes, highlights of outside readings, films, class objectives, lists to be memorized, etc.

Quiz

Drill each other. Use test questions at the end of the chapter or, better yet, construct your own.

"Lately we've each been bringing two `trivia' questions to group. It's not only fun, it also forces each member to read and review before the study session. Constructing questions has helped me think the way instructors think when they're making up tests."

Summarize

Periodically pause and recap the major points under discussion. At the end of the session, summarize what you have accomplished and list the things that still need to be done.

Divide

Whenever possible, divide tasks and activities.

"We split up the objectives, with each member being responsible for just a few. That person gathers the information and brings copies for everyone to the next meeting. It saves so much time!"

Assign

Assign individuals or sub-groups to tasks, and be sure to specify dates for completion.

End

Always end on time.

When students form study groups or support groups, they are "networking". You may be interested to learn that student networks reach far beyond your own campus. They operate on a national and an international level. If you would like to extend your network log onto:

<http://www.ncsbn.org>

OR

<http://www.nsna.org>

Registered nurses band together in groups for the same reason students do – to survive; and for one even better reason – to thrive.

MODULE 5

MATH FOR NURSES

LEARNING ACTIVITIES

1. The unit method of working problems (dimensional analysis) will be taught in class.
2. Work all problems in the resource manual. Check your answers against the answer key. Please see the instructor about any problems you cannot solve. Additional problems can be obtained from the instructor.
3. Take the Review Test in the syllabus. If you score **90** percent or above on it, you are ready for the math examination. (Time allowed is 1 hour, 14 minutes.)

INCLUSIONS

1. Math Guide.
2. Weights and Measures
3. The Dimensional Analysis Method.
4. Practice Problems.
5. Review Test.
6. Review Test - Answer Key.
7. Alternate Format Quiz and answer key

MATH GUIDE

1. Round the following values to hundredths:
 - a. mg
 - b. mcg
 - c. kg
 - d. units
 - e. g
2. Round **mL** to tenths if more than 1 mL; to hundredths if less than 1 mL.
3. Tablets are usually given as whole numbers. If a tablet is scored, it may be split in half.
4. A suppository can only be cut in half lengthwise. If greater than 0.5 use the entire suppository (Pediatrics).
5. Drops (gtts) should be in whole numbers.
6. Round a number up if the number to the right of it is 5 or above; the number stays the same if the number to the right of it is 4 or below.
7. Do not convert fractions to decimals within the problem, unless it is an even fraction.
8. Use the closest equivalent; use of multiple equivalents increases inaccuracy of result.
9. Intravenous fluids calculated in mL per hour may be rounded to tenths.
10. Round pounds to tenths.
11. Round temperature to tenths.

WEIGHTS AND MEASURES

Metric

$$1 \text{ g} = 1000 \text{ mg}$$

$$1000 \text{ g} = 1 \text{ kg}$$

$$1 \text{ mg} = 1000 \text{ mcg}$$

You must be able to write (by memory) the following equivalent weights and measures:

Metric

Household

$$1000 \text{ mL} = 1 \text{ qt}$$

$$500 \text{ mL} = 1 \text{ pt}$$

$$30 \text{ mL} = 1 \text{ fluid ounce} = 2 \text{ tbsp}$$

$$5 \text{ mL} = 1 \text{ tsp}$$

$$30 \text{ g} = 1 \text{ oz}$$

$$1 \text{ kg} = 2.2 \text{ lbs}$$

Equivalent Weights for the Metric System

$$1000 \text{ mL} = 1 \text{ Liter}$$

$$1000 \text{ mU} = 1 \text{ Unit}$$

$$1 \text{ liter of water} = 1 \text{ kg}$$

Ratio Solutions (Express the number of grams of the drug per total ml of solution)

$$50\% \quad 50 \text{ g}/100 \text{ mL}$$

$$10\% \quad 10 \text{ g}/100 \text{ mL}$$

$$1:1000 \quad 1 \text{ g}/1000 \text{ mL}$$

Temperature Conversions

$$\text{Celsius} = (F - 32^\circ) \times 5/9$$

$$\text{Fahrenheit} = (9/5 \times C) + 32^\circ$$

Example: $98.6^{\circ}\text{F} = 37^{\circ}\text{C}$

Calories

4 kcal/gm	Carbohydrates
4 kcal/gm	Protein
9 kcal/gm	Fats
7 kcal/gm	Alcohol

MATHEMATICAL PROBLEM SOLVING

Dimensional Analysis/Unit Method

Dimensional analysis or the unit method is a method of solving mathematical problems that has been used by engineers, physicists, and chemists for many years. It has, however, only recently been applied to mathematical problem solving in nursing. It is a method that involves **no** memorization of formulas, **no** understanding of ratio and proportion, and **no** algebra. What the unit method does involve is an open mind and a willingness to give up traditional methods of problem solving that have been used in nursing for years. This method can be used for determining IV rates, doing conversions, calculating dosages ... almost any mathematical problem you will encounter in nursing.

As with any method of mathematical problem solving, a basic understanding of the units of measurement for the apothecary, a metric and household system is necessary. When you have acquired this basic knowledge, you can then use the four steps in the method as presented in this program to solve any and almost all of your mathematical problems.

DEFINITION OF TERMS

Unit

A unit is a word that represents a standardized quantity. For example, a minute is a unit of time. A gram is a unit of weight.

EXAMPLE #1

How many pounds of sugar can you buy for 2 dollars if sugar is 79 cents for 1 pound?

The units are: (1) dollars
(2) cents
(3) pounds

EXAMPLE #2

Give 1000 mg of Gantrisin. You have tablets of 500 mg each.

The units are: (1) mg
(2) tablet
(3) mg

EXAMPLE #3

You are to give 1000 mL 5% D/W (D5W) in 8 hours. The drip factor is 15 gtts per mL. At how many drops per minute will you infuse the IV?

The units are: (1) mL
(2) hours
(3) gtts
(4) mL

Factor

A factor is a single, given item in a problem. Each factor consists of a number and a unit.

EXAMPLE #1: How many pounds of sugar can you buy for 2 dollars if sugar is 79 cents for 1 pound?

The factors in this problem are:

1. 2 dollars
2. 79 cents
3. 1 pound (of sugar)

EXAMPLE #2: Give 1000 mg of Gantrisin. You have tablets of 500 mg each.

The factors here are:

1. 1000 mg
2. 1 tablet
3. 500 mg

EXAMPLE #3 You are to give 1000 mL 5% D/W (D5W) in 8 hours. The drip factor is 15 gtts per mL. At how many drops per minute will you infuse the IV?

The factors in this problem are:

1. 1000 mL
2. 8 hours
3. 15 gtts
4. 1 mL

Set

Two factors which are equivalent to each other make up a **set**. Problems are set up in the following way:

$$\frac{A \boxed{}}{B \boxed{}} \times \frac{C \boxed{}}{D \boxed{}} = \text{Quantity Desired}$$

The boxes represent the individual factors in the problem. Each pair of factors, i.e., $\frac{A \boxed{}}{B \boxed{}}$ is a set.

EACH FACTOR USED MUST INCLUDE ITS UNIT. THE FACTORS IN EACH SET MUST BE EQUAL.

HINT: The words “per” and “in” are verbal equal signs.

Let's identify the **sets** in the examples.

EXAMPLE #1, the sets are:

(1) $\frac{1 \text{ pound}}{79 \text{ cents}}$

It is helpful if you read the set as "A equals B" or "1 pound equals 79 cents".

There is also an implied set in the problem. This is 2 dollars equals 1 purchase. Most people using this method simply use the digit "1" in this set rather than using the implied unit. For clarity in this program I have put the implied unit in parentheses, but it is not necessary to do this in your problem.

(2) $\frac{2 \text{ dollars}}{1 \text{ (purchase)}}$

EXAMPLE #2, the sets are:

(1) $\frac{500 \text{ mg}}{1 \text{ tablet}}$

(2) $\frac{1000 \text{ mg}}{1 \text{ (dose)}}$

EXAMPLE #3, the sets are:

(1) $\frac{1000 \text{ mL}}{8 \text{ hours}}$

(2) $\frac{15 \text{ gtts}}{1 \text{ mL}}$

Using the dimensional analysis method, you may add to a problem any equivalent factors needed to solve a problem. You could, for example, use the following sets:

$$\frac{1 \text{ hour}}{60 \text{ minutes}}$$

$$\frac{1 \text{ pound}}{16 \text{ ounces}}$$

These sets could also be reversed and they would still be equivalent or equal:

$$\frac{60 \text{ minutes}}{1 \text{ hour}}$$

$$1 \text{ hour}$$

$$\frac{16 \text{ ounces}}{1 \text{ pound}}$$

Equivalent factors can be added to a problem because they do not change the value of the answer. Multiplying a number by 1 does not change the number.

$$6/10 \times 1/2 = 6/20$$

$$6/10 \times 1/2 \times 1/1 = 6/20$$

$$6/10 \times 1/2 \times 3/3 = 18/60 \text{ or } 6/20$$

In each of the above problems, adding a fraction equal to 1 did not change the answer.

SOLVING PROBLEMS

STEP ONE

In space A start with a factor that has the **unit** that you need for your answer.

Problem

You have an order for Drug X 1 gram. You have on hand Drug X 500 mg per tablet. How many tablets will you give?

The factors in the problem are:

- (1) 1 gram
- (2) 500 mg
- (3) 1 tablet

The answer will be a number of **tablets**. Therefore, in space A we want the unit tablets. From the problem we take the factor "1" tablet.

$$\underline{1 \text{ tablet}} =$$

To complete this set an equivalent for 1 tablet must be used. We are given the information in the problem that 500 mg (Drug X) equals 1 tablet. We now have:

$$\frac{\underline{1 \text{ tablet}}}{500 \text{ mg}} =$$

STEP TWO

Place similar units **diagonally** from each other. We now need another mg factor for space C. We need to change our mg to grams, because our order is in grams. The equivalent mg to g can go in spot C. We can introduce this into the problem because it is a 1 to 1 equivalent. Keep in mind that these two factors were not in our original problem, but you must add equivalents as needed to cancel out all unnecessary units.

$$\frac{\underline{1 \text{ tablet}}}{500 \text{ mg}} \quad \frac{\underline{1000 \text{ mg}}}{1 \text{ gram}} =$$

Following step two we continue placing similar units diagonally, until all factors in the problem have been used.

$$\frac{\underline{1 \text{ tablet}}}{500 \text{ mg}} \quad \frac{\underline{1000 \text{ mg}}}{1 \text{ gram}} \quad \frac{\underline{1 \text{ gram}}}{1 \text{ (dose)}} =$$

We have now included all the factors given in the problem and are ready for step three.

STEP THREE

Cancel out diagonally all units not needed in the answer.

$$\begin{array}{rclcl} \underline{1 \text{ tablet}} & \underline{1000 \text{ mg}} & \underline{1 \text{ gram}} & = & \\ 500 \text{ mg} & 1 \text{ gram} & 1 \text{ (dose)} & & \end{array}$$

STEP FOUR

When all unwanted units are cancelled, **multiply** straight across for your answer.

$$\begin{array}{rclcl} \underline{1 \text{ tablet}} \times \underline{1000 \text{ mg}} & \times & \underline{1 \text{ gram}} & = & \underline{1000} \text{ or 2 tablets} \\ 500 \text{ mg} & & 1 \text{ (dose)} & & 500 \end{array}$$

Summary

1. Start with the factor that has the **unit** needed in the answer.
2. Place similar units **diagonally**. Add equivalents of 1 as necessary to cancel out unwanted units.
3. **Cancel** out diagonally all units not needed for the answer.
4. When all unwanted units are cancelled, **multiply** straight across for the answer.

ANSWERS TO THE EXAMPLES

EXAMPLE #1: 2.5 pounds

EXAMPLE #2: 2 tablets

EXAMPLE #3: 31 gtt/min

SAMPLE PROBLEMS

1. Give Drug X 100 mg. You have Drug X 50 mg per mL vials. How many mLs will you give?

STEP ONE - You need to know how many mLs to give, start with the mL factor and its equivalent.

$$\frac{1 \text{ mL}}{50 \text{ mg}}$$

STEP TWO - Place similar factors diagonally.

$$\begin{array}{ccc} \frac{1 \text{ mL}}{50 \text{ mg}} & \times & \frac{100 \text{ mg}}{1 \text{ (dose)}} \end{array}$$

All factors have been used.

STEP THREE - Cancel all unwanted units.

$$\begin{array}{ccc} \frac{1 \text{ mL}}{50 \cancel{\text{ mg}}} & \times & \frac{100 \cancel{\text{ mg}}}{1 \text{ (dose)}} = \end{array}$$

Looking only at the units remaining we have "mL" per "dose".

STEP FOUR - Multiply straight across.

$$\begin{array}{ccc} \frac{1 \text{ mL}}{50 \cancel{\text{ mg}}} & \times & \frac{100 \cancel{\text{ mg}}}{1 \text{ (dose)}} = \frac{100}{50} \text{ or } 2 \text{ mL} \end{array}$$

2. You have a patient who weighs 120 pounds. You have an order to give 0.15 mg of Drug X per kg of body weight. You have Drug X vials of 5 mg per 2 mL. How many mLs will you give?

Factors:

1. 120 pounds
2. 0.15 mg (Drug X)
3. 1 kg (body weight)
4. 2 mL (Drug X)
5. 5 mg (Drug X)

STEP ONE

$$\frac{2 \text{ mL}}{5 \text{ mg}}$$

STEP TWO

$$\frac{2 \text{ mL}}{5 \text{ mg}} \times \frac{0.15 \text{ mg}}{1 \text{ kg}} \times \frac{1 \text{ kg}}{2.2 \text{ lbs}} \times \frac{120 \text{ lbs}}{1} =$$

5 mg 1 kg 2.2 lbs 1 (patient)

SAMPLE PROBLEMS (CONTINUED)

STEP THREE

$$\frac{2 \text{ mL}}{5 \text{ mg}} \times \frac{0.15 \text{ mg}}{1 \text{ kg}} \times \frac{1 \text{ kg}}{2.2 \text{ lbs}} \times \frac{120 \text{ lbs}}{1 \text{ (patient)}} =$$

STEP FOUR

$$\frac{2 \text{ mL}}{5 \text{ mg}} \times \frac{0.15 \text{ mg}}{1 \text{ kg}} \times \frac{1 \text{ kg}}{2.2 \text{ lbs}} \times \frac{120 \text{ lbs}}{1 \text{ (patient)}} = \frac{36}{11} \text{ or } 3.3 \text{ mL}$$

3. You are to infuse a 1000 mL bottle of 5% D/W in over an 8 hour period. Your equipment has a drop factor of 15 gtts per mL. How many drops per minute will you infuse the IV?

$$\frac{15 \text{ gtts}}{1 \text{ mL}} \times \frac{1000 \text{ mL}}{8 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min}} = \frac{15,000}{480} \text{ or } 31 \text{ gtts per minute}$$

In this last problem the 1 hour equals 60 minutes equivalent was added to allow us to cancel out the hour unit which we did not need. Both the gtts unit and the minute unit were left uncanceled because both were needed in our answer. The IV will run at 31 gtts per minute.

PHARMACOLOGY WORK PROBLEMS

CONVERSIONS

1. 110 lb = _____ kg
2. 60 mL = _____ oz
3. 1 pt = _____ mL
4. 2 qt = _____ mL
5. 3.5 g = _____ mg
6. 15 kg = _____ g
7. 33 mg = _____ g
8. 1000 mL = _____ L
9. 1 oz = _____ g
10. 1mg = _____ mcg
11. 1g = _____ mg
12. 8 oz = _____ glassful

PHARMACOLOGY WORK PROBLEMS

ORAL DRUGS

1. The doctor's order reads: Drug X 0.5 g PO four times a day. The dosage available is Drug X 250 mg per capsule. How many capsules should you give per dose?
2. The doctor's order reads: Drug X 250 mg PO four times a day. Drug X is available in capsules of 125 mg per capsule. How many capsules will you give per dose?
3. The doctor's order reads: Drug X 12.5 mg PO. You have Drug X 25 mg per tablet. How many tablets will you give?
4. You have an order for Drug X 625 mcg PO. Tablets are labeled 0.625 mg. How many tablets will you give?
5. The order is Drug X 3.75 mg PO. Drug X 2.5 mg tablets are available. How many tablets will you give?

PHARMACOLOGY WORK PROBLEMS – ORAL (CONTINUED)

6. The order is for Drug X 0.125 mg PO. The bottle is labeled Drug X 0.25 mg. How many tablets will you give?

7. You are to give Drug X 0.05 mg PO. The bottle is labeled Drug X 50 mcg. How many tablets will you give?

8. You have an order for Drug X 0.06 g per kg of body weight per day to be divided into four equal doses. Drug X is available in tablets of 0.5 g. Your patient weighs 145 pounds. How many tablets will you give for one dose?

9. The doctor's order reads Drug X 40 mEq PO. The label reads Drug X oral solution 20 mEq in 15 mL. How many mL will you give?

10. You are to give Drug X 10 mg PO tid. You have Drug X elixir 20 mg per 5 mL. How many mL will you give for one dose?

11. Give Drug X oral suspension 0.2 g PO. The bottle is labeled 400 mg per 5 mL. How many mL will you give?

PHARMACOLOGY WORK PROBLEMS

PARENTERAL DRUGS

1. You have an order for Drug X 125 mg IM four times a day. You have a 5 mL vial containing 1 g of Drug X in powder form. The directions read: "Add 1.5 mL diluent to yield 2 mL reconstituted solution." How many mL will you give?
2. You are to give Drug X 300,000 units IM every four hours. You have a vial labeled 3,000,000 units Drug X in powder form. The directions are to add 4.5 mL diluent to yield 5 mL reconstituted solution. How many mL will you give?
3. You are to give Drug X 500,000 units IM every 6 hours. You have Drug X 1,000,000 units in powder form. Directions are to add 3.6 mL diluent to yield 250,000 units per mL. How many mL will you give?
4. Give Drug X 1 g IV stat. You have Drug X 10 mL ampules of 10% solution. (Percentage solutions express the number of grams of the drug per 100 mL of solution. Drug X 10% = 10 g per 100 mL.) How many mL will you give?

PHARMACOLOGY WORK PROBLEMS – PARENTERAL DRUGS (CONTINUED)

5. Give 1 g Drug X IV stat. You have a vial of Drug X 50%. How many mL will you give?

6. Give Drug X 0.4 mg subcutaneous stat. You have a 1 mL ampule labeled Drug X 1:1000. (Ratio solutions express the number of grams of the drug per total mL of solution. 1:1000 = 1 g per 1000 mL of solution.) How many mL will you give?

7. Give Drug X 0.3 mg IV. You have a 1 mL vial labeled Drug X 1:1000. How many mL will you give?

8. Give Drug X 0.25 mg IM. You have a 2 mL ampule labeled Drug X 1:2000. How many mL will you give?

9. The doctor's order reads Drug X 20 mg IV every 4 hours prn. You have a cartridge labeled Drug X 50 mg per mL. (A cartridge is prefilled and is used with a tubex syringe.) How many mL will you discard and how many mL will you give?

PHARMACOLOGY WORK PROBLEMS – PARENTERAL DRUGS (CONTINUED)

10. Give Drug X 6,000,000 units IM bid. You have available a 10 mL vial labeled Drug X 5,000,000 units per mL. How many mL will you give?
11. You are to give Drug X 0.15 mg subcutaneous to a child. You have a 20 mL vial labeled Drug X 0.4 mg per mL. How many mL will you give?

PHARMACOLOGY WORK PROBLEMS

INTRAVENOUS SOLUTIONS

1. 1000 mL Lactated Ringers IV to infuse at 125 mL per hour. How many hours will this IV last?
2. Your patient's IV is infusing at 12 gtts per minute. The drop factor is 10 gtts per mL. (The "drop factor" is the number of drops in one mL. It depends on the size of a drop and varies according to the manufacturer of the equipment. The drop factor will be stated on the package of the IV tubing.) How many mL of IV solution will this patient receive in 24 hours?
3. In report you are told that an IV has 300 mL to count. ("To count" means the volume of solution remaining in the bottle to be infused on your shift.) Drop factor is 15 gtts per mL. The IV is infusing at 30 gtts per minute. How many hours will this IV last?
4. You have an order for 1000 mL D5W to infuse over 6 hours. At what rate will you infuse the IV? (The "rate" or "flow rate" can be regulated in gtts per minute or in mL per hour. If you are using an IV pump, the pump calibration will tell you which rate to use. If the IV is running by gravity flow you will always calculate the rate in gtts per minute.) Calculate this rate in mL per hour. (When you are using mL per hour you do not need to know the drop factor.)
5. Infuse 1500 mL of Lactated Ringers over 12 hours. The drop factor is 15 gtts per mL. Calculate the infusion rate in gtts per minute.

PHARMACOLOGY WORK PROBLEMS – INTRAVENOUS SOLUTIONS

6. You are to administer Drug X 0.5 g IV in 250 mL normal saline to infuse over 2 hours. The drop factor is 60 gtts per mL. What is the flow rate in drops per minute?

7. The doctor's order reads: Drug X 2 g per 1000 mL D5W at 4 mg per minute. The drop factor is 60 gtts per mL. What is the flow rate in drops per minute?

8. The doctor's order reads: Drug X 2 mg IVPB in 500 mL D5W at 5 mcg per minute. The drop factor is 60 gtts per mL. What is the flow rate in mL per hour? (IVPB means a medication dissolved in a small amount of intravenous fluid, usually 50 or 100 mL, and run piggyback with the regular intravenous fluid.)

9. The order is for Drug X 1 g IVPB in 100 mL D5W q6h to infuse over 30 minutes. The drop factor is 10 gtts per mL. What is the flow rate in mL per hour?

10. What is the flow rate for #9 in gtts per minute?

PHARMACOLOGY WORK PROBLEMS

ANSWER SHEET

<p>Conversions:</p> <ol style="list-style-type: none">1. 50 kg2. 23. 500 mL4. 2000 mL5. 3500 mg6. 15,000 g7. 0.03 g8. 1 L9. 30 g10. 1000 mcg11. 1000 mg12. 1 glassful	<p>Oral Drugs:</p> <ol style="list-style-type: none">1. 2 cap2. 2 cap3. ½ tab4. 1 tab5. 1 ½ tab6. ½ tab7. 1 tab8. 2 tab9. 30 mL10. 2.5 mL11. 2.5 mL
<p>Parenteral Drugs:</p> <ol style="list-style-type: none">1. 0.25 mL2. 0.5 mL3. 2 mL4. 10 mL5. 2 mL6. 0.4 mL7. 0.3 mL8. 0.5 mL9. Discard 0.6 mL and give 0.4 mL10. 1.2 mL11. 0.38 mL	<p>Intravenous Solutions:</p> <ol style="list-style-type: none">1. 8 hr2. 1728 mL3. 2 ½ hr4. 166.7 mL/hr5. 31 gtts/min6. 125 gtts/min7. 120 gtts/min8. 75 mL/hr9. 200 mL/hr10. 33 gtts/min

PHARMACOLOGY PRACTICE PROBLEMS #1

1. Drug **X** is to be started at 8 mcg/kg/minute IV on a 158 pound patient. The drop factor is 15 drops per mL. The drug concentration is 400 mg per 500 mL of 5% D/W. What is the infusion rate in mL per hour?

2. Drug **X** 100 mg/kg/day is ordered for a child weighing 23 pounds. The medication is available in standard strength of 125 mg/5 mL. The total amount is to be given in four equally divided doses.
 - a. How many mg will be in one dose?

 - b. How many mL will you give for one dose?

3. Drug **X** is ordered 100 mg/kg/day to be given in four equally divided doses each day. Patient weighs 17 pounds. Drug **X** comes 125 mg/5 mL. How many mL of the drug will you need for one day?

4. Drug **X** is ordered 3 mg/kg/day divided into three equal doses. Patient weighs 240 pounds. Drug **X** is available in vials of 80 mg/2 mL. How many mL will you give for one dose?

PHARMACOLOGY PRACTICE PROBLEMS #1 (CONTINUED)

5. You are to give Drug **X** 25,000 units/kg/24 hours in six equally divided doses. The medication comes in powder form 1,000,000 units per vial. When dissolved in 9.6 mL of diluent, the concentration is 100,000 units/mL. Patient weighs 100 pounds. How many mL will you give for one dose?

6. You are to add 5 mL diluent to a 2 g vial of Drug **X**. The final concentration will be 330 mg per mL. How many mLs will you administer when the order is for 500 mg per dose?

7. You are to give Drug **X** in liquid form. The ordered first dose is 100 mg/kg to be followed by 50 mg/kg/day in three equally divided doses. Drug **X** comes 250 mg/5 mL. Patient weighs 38 pounds.
 - a. How many mL will you give for the first dose?

 - b. How many mL in each following dose?

8. Drug **X** is to be started at 3 mcg/kg/minute. Drop factor is 60 gtts/mL. Patient weighs 234 pounds. Concentration of drug is 500 mg per 1000 mL.
 - a. At what rate in mL/hour will you infuse the IV?

 - b. How many mg of the drug will the patient receive in one hour?

PHARMACOLOGY PRACTICE PROBLEMS #1 (CONTINUED)

9. Your patient is to receive an initial dose of Drug X 0.06 mg IV, to be followed by doses of 0.01 mg PRN. Drug is available in ampules of 1 mg/5 mL.
- a. How many mL for the initial dose?
 - b. How many mL for the prn dose?
10. Ordered 5 micrograms per minute by continuous IV infusion. Drug concentration is 1 mg in 500 mL 5% D/W. Drop factor 60 gtts/mL. What is the drip rate in gtts/minute?

PHARMACOLOGY PRACTICE PROBLEMS #1

ANSWERS

1. 43.1 mL/hour
2. a. 261.36 mg
b. 10.5 mL
3. 30.9 mL
4. 2.7 mL
5. 1.9 mL
6. 1.5 mL
7. a. 34.5 mL
b. 5.8 mL
8. a. 38.3 mL/hour
b. 19.15 mg in 1 hour
9. a. 0.3 mL
b. 0.05 mL
10. 150 gtts/minute

PHARMACOLOGY PRACTICE PROBLEMS #2

1. Drug **X** is infusing at 10 mcg/kg/minute on a 165 pound patient. The drop factor is 60 gtt/mL. The drug concentration is 400 mg in 500 mL 5% D/W.
 - a. What is the rate of flow in mL/hour?

 - b. How many mg of Drug **X** will be given in 2 hours?

2. Mrs. Jones' IV is infusing at 100 mL/hour using microdrip (60 gtt/mL) tubing.
 - a. What is the flow rate in gtts/minute?

 - b. How long will it take for a 1000 mL bottle to be infused?

3. Drug **X** is to be started at 5 mcg/kg/minute through an IV with the drop factor 60 gtt/mL. The patient weighs 220 pounds. Concentration of Drug **X** is 400 mg in 500 mL 5% D/W.
 - a. What is the flow rate in mL/hour?

 - b. How many mg of Drug **X** will the patient receive each hour?

4. A drug is ordered for 5 mg/kg/day. The patient weighs 27 pounds. The drug is available in 125 mg/5 mL. It is to be given in four equally divided doses. How many mL will you give for one dose?

PHARMACOLOGY PRACTICE PROBLEMS #2 (CONTINUED)

5. A child is to receive Drug **X**. The dose ordered is 5 mg/kg. The child weighs 86 pounds. The Drug **X** is labeled 125 mg per 5 mL.
 - a. How many mg will the child receive?

 - b. How many mL will you give?

6. A chart order indicates that Drug **X** in the form of the oral suspension is to be administered to a 44 pound pediatric patient on a dosage schedule of 12.5 mg/kg/day in equally divided doses every 6 hours. Available for use is Drug **X** with a stated label potency of 62.5 mg/5 mL. How many mg will a single dose contain?

7. The order is for Drug **X** 375 mg IV every four hours. You have Drug **X** mg per vial. Vial states when reconstituted with 1.8 mL sterile water, each mL will contain 250 mg Drug **X**. What will the correct single dose be in mL?

8. The recommended dose for adults for Drug **X** injection is 3 mg/kg/day divided into three equal doses. Drug **X** comes packaged in 80 mg/2 mL vials. Your patient weighs 147 pounds. How many mL will you give for a single dose?

9. Your patient weighs 49 pounds and is to receive Drug **X** 25,000 units per kg per 24 hours given in six equally divided doses. Medication is available 1,000,000 units per vial with direction for dilution with 9.6 mL diluent to make a concentration of 100,000 units/mL. How many mL for a single dose?

PHARMACOLOGY PRACTICE PROBLEMS #2 (CONTINUED)

10. The recommended dosage for Drug X liquid for children weighing 20 kg or less is 100 mg/kg/day to be given in four equally divided doses. Your patient weighs 17 pounds. The medication comes in standard strength of 125 mg/5 mL.
- How many mg will your patient receive in 24 hours?
 - How many mL per dose?
11. You are to give: Drug X 50 mg }
Drug Y 0.4 mg } IM
Drug Z 25 mg }
- You have: Drug X 100 mg per 2 mL
Drug Y 0.4 mg per mL
Drug Z 100 mg per 2 mL
- What is the total amount in mL you will administer?
12. Your patient has an IV infusing at 25 gtt/minute. Drop factor is 10 gtt/mL. How many mL will your patient receive in 8 hours?
13. Drug X 1000 mg is added to a 500 mL of 5% Dextrose/Water. It is to be given IV at a rate of 20 mg/hour. The drop factor is 20 gtts/mL. How many mL/hour should the IV infuse?

PHARMACOLOGY PRACTICE PROBLEMS #2 (CONTINUED)

14. Administer Drug X 0.5 mcg/Kg/min IV for a hypertensive crisis. On hand is Drug X 50 mg in 500mL of normal saline. The patient weighs 140 lbs. Calculate the mL/hour rate for the infusion pump.

15. You have a multiple dose vial of Drug X labeled 5,000,000 units. The directions read "add 3.2 mL diluent to make 1,000,000 units per mL." If the patient receives 1.7 mL of this solution, how many units will he receive?

16. Drug X is ordered at 5 mg/kg four times a day for an 86 pound patient. The medication comes in a vial containing 75 mg/2 mL.
 - a. How many mL per dose?

 - b. How many mg per day?

17. Add 25,000 units of Drug X to 250 mL of D5W. Infuse at 1200 units/ hour. The drip factor is 10 gtt/mL. Calculate the mL/hour rate for the infusion pump.

PHARMACOLOGY PRACTICE PROBLEMS #2 (CONTINUED)

18. Patient is to receive Drug X 4 mcg/kg/minute IVPB. Drop factor is 15 gtt/mL. Patient's weight is 375 pounds. Drug concentration is 500 mg/500 mL. What is the flow rate in mL/hour?
19. Patient is to receive IV Drug X 15,000 units/day. Vial is labeled 40,000 units per 2 mL. Drug X is to be added to a 500 mL bottle of 5% D/W for 24 hours.
- How many mL of Drug X will you add?
 - What will the flow rate be in mL/hour?
20. You are to add 10 g of Drug X to 1000 mL of D5W. You have a 10 mL vial of 50% solutions of Drug X. How many mL will you add?

PHARMACOLOGY PRACTICE PROBLEMS #2

ANSWERS

1. a. 56.3 mL/hour
b. 90.08 mg/dose (90 mg/dose if start with 10 mcg/kg/min)
2. a. 100 gtt/minute
b. 10 hours
3. a. 37.5 mL/hour
b. 30 mg/hour
4. 0.61 mL
5. a. 195.45 mg
b. 7.8 mL
6. 62.5 mg
7. 1.5 mL
8. 1.7 mL
9. 0.93 mL
10. a. 772.73 mg
b. 7.7 mL
11. 2.5 mL
12. 1200 mL
13. 10 mL/hour
14. 19.1 mL/hour
15. 1,700,000 units
16. a. 5.2 mL
b. 781.82 mg/day
17. 12 mL/hour
18. 40.9 mL/hour
19. a. 0.75 mL
b. 20.8 mL/hour
20. 20 mL

PHARMACOLOGY PRACTICE PROBLEMS #3

1.

Ordered	1 mL Tubex on Hand	Discard/mL	Give/mL
40 mg	50 mg		
75 mg	100 mg		
50 mg	100 mg		
60 mg	125 mg		

2. Using IV tubing with a drop factor of 15 gtts/mL, figure the rate in both mL per hour and gtts per minute.

	mL/hour	gtts/minute
500 mL in 8 hours		
1000 mL in 12 hours		
700 mL in 5 hours		

3. Using IV tubing with a drop factor of 60, figure the rate in mL per hour and gtts per minute.

	mL/hour	gtts/minute
500 mL in 24 hours		
50 mL in 4 hours		

PHARMACOLOGY PRACTICE PROBLEMS #3 (CONTINUED)

4. Patient is to receive liquid Drug X 100 mg/kg for the first dose, then 50 mg/kg/day in three equally divided doses. The patient weighs 52 pounds. Drug X on hand is 250 mg/5 mL.

How many mL for first dose? _____ mL

How many mL for each of following doses? _____ mL

How many mg per day after first dose? _____ mg

5. Your patient's IV is infusing behind schedule. A 1000 mL bottle was to be infused in 8 hour. After 5 hours it still contains 500 mL. The drop factor is 15 gtts/mL. What will the adjusted flow rate be?

_____ mL/hour

6. You are to give Drug X 5 mg/kg/day. Your patient weighs 23 pounds. You have a bottle labeled 125 mg/5 mL. You are to give the drug in four equally divided doses per day. How much will you give for one dose (mL)?

_____ mL

7. You are to give Drug X 1 g IVPB in 100 mL every 6 hours. You are to infuse it in over a 30 minute period. Drop factor is 10. You have 1 g of Drug X in 100 mL 5% D/W.

At what rate will you infuse it in mL per hour? _____ mL/hr

At what rate will you infuse it in gtts per minute? _____ gtts/min

PHARMACOLOGY PRACTICE PROBLEMS #3 (CONTINUED)

8. The patient is to receive 100 mg of Drug X at bedtime to be administered via the feeding tube. The concentration of the medications is 20 mg/5 mL. How many mL should be administered via the feeding tube?

_____ mL

9. You are to add 12 mEq of Drug X to an IV. You have a vial of Drug X labeled 20 mEq in 10 mL. How many mL will you add to the IV?

_____ mL

10. You have been given an order to begin infusing Drug X at 10 mcg/minute. You are to add 10 mg to 500mL of D5/LR. Drug X vials are labeled 10 mg/mL.

What is the concentration of the solution? _____mcg/mL

What is the infusion rate? _____mL/hr

11. You are to run an infusion of Drug X, starting with a bolus dose of 4 g over 30 minutes and then a maintenance rate of 2 g/hr. (Drug X comes in a 50% solution in 20 mL vials and the standard mixture is 40 g in 1000 mL of D5RL.)

What is the rate of infusion for the bolus dose? _____mL/hr

What will the maintenance rate be set at on the IV pump? _____mL/hr

PHARMACOLOGY PRACTICE PROBLEMS #3

ANSWERS

1.

Discard	Give
0.2 mL	0.8 mL
0.25 mL	0.75 mL
0.5 mL	0.5 mL
0.52 mL	0.48 mL

2.

mL/hour	gtt/minute
62.5 mL	16 gtts
83.3 mL	21 gtts
140 mL	35 gtts

3.

mL/hour	gtts/minute
20.8 mL	21 gtts
12.5 mL	13 gtts

4. 47.3 mL
7.9 mL
1181.82 mg

5. 166.7 mL/hr

6. 0.52 mL

7. a. 200 mL/hour
b. 33 gtts/minute

8. 25 mL

9. 6 mL

10. a. 20 mcg/mL
b. 30 mL/hour

11. a. 200 mL/hour
b. 50 mL/hour

MISCELLANEOUS PHARMACOLOGY WORK PRACTICE PROBLEMS

1. The patient has a temperature of 37 degrees Celsius ($^{\circ}\text{C}$). What is the temperature in degrees Fahrenheit ($^{\circ}\text{F}$)?

_____ $^{\circ}\text{F}$

2. The patient has a temperature of 103.6 degrees Fahrenheit ($^{\circ}\text{F}$). What is the temperature in degrees Celsius ($^{\circ}\text{C}$)?

_____ $^{\circ}\text{C}$

3. In report, you are told that an IV has 480 mL remaining in the bag. The drop factor is 15 gtts/mL. The IV is infusing at 25 gtts/minute. How many hours will the IV last?

_____ hours _____ minutes

4. You have an IV infusing at 125 mL per hour. There is 800 mL left in the bag. How Many hours will the IV last?

_____ hours _____ minutes

5. You are to administer the early morning insulin to your patient. The order is for 30 units of NPH and 6 units of regular insulin every AM before breakfast. In addition, the patient receives sliding scale insulin. The patient's finger stick blood sugar is 250 at 0600. The following is the sliding scale.

Regular insulin coverage for blood sugars AC and HS:

150-199 give 2 units

200-250 give 4 units

251-300 give 6 units

301-350 give 8 units

How many total units are to be given prior to breakfast?

_____units

MISCELLANEOUS PHARMACOLOGY WORK PRACTICE PROBLEMS (CONTINUED)

6. You have an IV infusing at 75 mL per hour. At 1800 there is 400 mL left in the bag. At what time will the next bag be hung?

_____ (time)

7. The medication book recommends a dosage range of 50-100 mg/kg/24 hrs. The patient weighs 53 lbs. What is the recommended dosage per day?

_____mg to_____mg

MISCELLANEOUS PHARMACOLOGY WORK PRACTICE PROBLEMS ANSWER SHEET

- $^{\circ}\text{F} = (9/5 \times ^{\circ}\text{C}) + 32$ $^{\circ}\text{F} = (9/5 \times 37) + 32$ Answer: 98.6 $^{\circ}\text{F}$
- $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5/9$ $^{\circ}\text{C} = (103.6 - 32) \times 5/9$ Answer: 39.8 $^{\circ}\text{C}$
- Answer: 4 hours and 48 minutes
- Answer: 6 hours and 24 minutes
- $30 + 6 + 4 = 40$ units
- Answer: 11:20 p.m. or 2320
- Answer: 1204.55 mg to 2409.09 mg/day

REVIEW TEST

TIME LIMIT: 1 HOUR 14 MINUTES

1. The physician has ordered 400 mg of a drug. The label reads as follows: Add 3.6 mL sterile water to make 150 mg/mL. How many mL will you give?
_____ mL
2. A label reads 8 mg per 4 mL. You are to give 20 mg. How many mL will you give?
_____ mL
3. You have an order for 500,000 units Drug X. The label reads: Add 8.2 mL to make 1 mL = 300,000 units. How many mL will you give?
_____ mL
4. Give 0.2 g Drug X from a 5 mL vial labeled 100 mg per mL. How many mL will you give?
_____ mL
5. You are to give 0.1 mg of a drug. You have tablets labeled 100 mcg each. How many tablets will you give?
_____ tabs
6. The physician has ordered 100 mg of Drug X PO. You have tablets of 0.05 g each. How many tablets will you give?
_____ tabs

REVIEW TEST (CONTINUED)

7. Ordered: Drug X 20 mg. Label reads: 120 mg = 5 mL. How many mL will you give?

_____ mL

8. You are to administer Drug X to a child weighing 86 pounds. The order is for 5 mg per kg. You have a bottle labeled: Drug X 125 mg per 5 mL. How many mL will you give?

_____ mL

9. A vial of Drug X contains 10,000,000 units in powder form. You are to give 300,000 units. If you add 20 mL sterile water to the vial, how much will you give?

_____ mL

10. Give 750 mg of Drug X. Label reads 0.25 g per tablet. How many tablets will you give?

_____ tabs

11. Give 200,000 units from a bottle labeled 1,000,000 units/10 mL. How many mL will you give?

_____ mL

12. The label on a stock bottle reads 0.5 mg/mL. The order reads: Give 0.08 mg. How many mL will you give?

_____ mL

REVIEW TEST (CONTINUED)

13. Give Drug **X** 0.15 g po from a bottle labeled 500 mg/5 mL. How many mL will you give?
_____ mL

14. You are to give 750 mg of Drug **X**. You have a 2 g vial of Drug **X** labeled: Add 5.7 mL of Normal Saline to make 1.5 mL = 500 mg. How many mL will you give?
_____ mL

15. Your patient is going to surgery. You are to give Drug **X** 60 mg and Drug **Y** 0.3 mg pre-operatively. On hand you have a 2 mL ampule of Drug **X** containing 50 mg per mL and Drug **Y** 1 mg per mL.

How much Drug **X** will you give? _____ mL

How much Drug **Y** will you give? _____ mL

16. The recommended dose of Drug **X** for a premature infant is 15 to 30 mg/kg/day to be given in four equally divided doses. What is the recommended range for a single dose? The infant weighs four pounds.
_____ mg to _____ mg

17. 65 lb = _____ kg

18. 15 mL = _____ oz

REVIEW TEST (CONTINUED)

19. 2 oz = _____ mL

20. Give Drug X Elixir 15 mEq from a bottle labeled: Drug X Elixir 40 mEq per ounce. How many mL will you give?

_____ mL

21. You are to give Drug X 20 mg/kg/day divided into every eight hour doses. Your patient weighs 24 pounds. You have available Drug X oral suspension 125 mg per 5 mL. How many mL will you give for one dose?

_____ mL

22. You are to give Drug X to a 5-year-old child weighing 45 pounds. The order is for 0.5 mg/lb. Your vial is labeled 50 mg per 2 mL. How many mL will you give?

_____ mL

23. You are to give Drug X 400,000 units bid. You have a 10 mL vial labeled 300,000 units per mL. How many mL will you give?

_____ mL

24. You are to give Drug X 1 g IV STAT. You have a 10 mL ampule of Drug X 10%. How many mL will you give?

_____ mL

REVIEW TEST (CONTINUED)

25. You are to give Drug X subcutaneously STAT according to the pediatric emergency room's dosage guideline of 0.01 mL/kg/dose of 1:1000 solution. You are to administer Drug X to an 11 pound infant. How many mL will you give?

_____ mL

26. How many mg will you give in Problem #25?

_____ mg

27. You are to give Drug X 10,000 units every eight hours. You have a vial marked 40,000 units per mL. How many mL will you give?

_____ mL

28. You are to give Drug X 0.5 mg. You have an ampule labeled 0.5 mL = 1 mg. How many mL will you give?

_____ mL

29. Drug X is ordered 0.01 mg/kg/dose. You are to administer this to an 8 1/4 pound infant. Your ampule is labeled: 1 mL of Epinephrine 1:10,000. How many mL will you give?

_____ mL

30. 4 tbsp = _____ oz.

REVIEW TEST (CONTINUED)

31. You have an order for 40 mg of a drug. Available is a vial with 50 mg/mL. How many mL are needed for one dose?

_____ mL

32. You are to give 0.016 g of Drug X. On hand is a bottle labeled 4 mg = 1 mL. How many mL will you give?

_____ mL

33. A continuous infusion of Drug X is ordered for a newly admitted patient in Cardiogenic shock. The concentration is 2 mg in 500 mL D5W, and the rate of infusion is 40 mL/hour. Calculate the mcg/min infusing.

_____mcg/min

34. A patient is to receive 3000 mL of D5W over 20 hours. The drop factor is 20 gtts/mL. Calculate the flow rate in gtts/minute.

_____gtts/minute

REVIEW TEST ANSWERS

1. 2.7 mL
2. 10 mL
3. 1.7 mL
4. 2 mL
5. 1 tab
6. 2 tabs
7. 0.83 mL
8. 7.8 mL
9. 0.6 mL
10. 3 tabs
11. 2 mL
12. 0.16 mL
13. 1.5 mL
14. 2.3 mL
15. 1.2 mL DrugX/ 0.3 mL DrugY
16. 6.82 mg to 13.64 mg
17. 29.55 kg
18. 0.5 oz
19. 60 mL
20. 11.3 mL
21. 2.9 mL
22. 0.9 mL
23. 1.3 mL
24. 10 mL
25. 0.05 mL
26. 0.05 mg
27. 0.25 mL
28. 0.25 mL
29. 0.38 mL
30. 2 oz
31. 0.8 mL
32. 4 mL
33. 2.67 mcg/min
34. 50 gtt/min

Insulin Sliding Scale

- The Nurse is administering medium-dose pre-prandial sliding scale coverage QID (AC/HS) with lispro insulin, basal daily 22 units of glargine insulin qHS, in addition to 20 units of NPH BID with breakfast and before bed as an adjunct to this client's persistent insulin resistance. The client's blood glucose at 2200 is 362. How much total insulin will the client receive?

Glucose Level	Low Dose	Medium Dose	High Dose	Very High Dose
Serum BG <60	Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD
60-149	0	0	0	0
150-200	0	2	4	6
201-250	3	6	8	10
251-300	4	8	12	14
301-350	6	10	14	18
351-400	9	12	16	22
>400	Call MD	Call MD	Call MD	Call MD

- A non-compliant diabetic is coming off of DKA protocol and is to receive 80% of the last 24 hours of total intravenous insulin infusion in 2 divided doses of NPH at 0800 and 2000. The nurse calculates the total insulin received over the last 24 hours to be 60 units. How many units of NPH shall the client receive this morning?

3. The client with HHS is receiving very high dose regular sliding scale insulin every 4 hours with point of care glucose checks. The physician asks how much insulin the client has received over the last four hours. The nurse looks at the glucose record and notes the following blood glucose checks: 260, 291, 322, and 396. How much total insulin did the patient receive?

Glucose Level	Low Dose	Medium Dose	High Dose	Very High Dose
Serum BG <60	Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD
60-149	0	0	0	0
150-200	0	2	4	6
201-250	3	6	8	10
251-300	4	8	12	14
301-350	6	10	14	18
351-400	9	12	16	22
>400	Call MD	Call MD	Call MD	Call MD

4. The client with an insulin pump has just checked their blood glucose and states they are on a carbohydrate ratio of 1 unit for every 15g of carbohydrates. Looking at the meal ticket from dietary, the patient is about to consume 120g of carbs. How much insulin will the client receive when this amount of carbs are programmed into the pump?

Carbohydrate ratio	Insulin bolus dose
1:5	12 units
1:10	6 units
1:12	5 units
1:15	4 units
1:20	3 units
1:30	2 units
1:50	1.2 units

Fahrenheit to Centigrade

6. The nurse notes the rectal temperature of the client on arrival to the emergency department. What is this in Fahrenheit?



7. The client's temperature is 99.7°F. Reviewing the PRN meds ordered for the client, should the client receive their first dose of acetaminophen?

	HOUR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Acetaminophen 650mg, PO q6h PRN temperature greater than 37.5 C (Hold for total 24h dose greater than 4g)																									

8. The client receiving targeted temperature management is to be passively rewarmed to 37 degrees over the next four hours at a rate of 0.25°C per hour from their current temperature. What is the client's current temperature in Fahrenheit?

9. The concerned family member asks what temperature the client is in a number they can understand. The nurse correctly converts the client's temperature to what?



10. The nurse notes the temperature below on their client in isolation. What is this in celsius?



mcg/kg/min to mL/hour (Weight Dosing)

11. The nurse is to start a phenylephrine infusion at 0.5 mcg/kg/min for the client with a blood pressure of 76/32. The infusion comes as 40mg/250ml and the client weighs 92kg. What will be the starting rate of the infusion (ml/hr)?

12. The nurse is to start the infusion below of midazolam at 0.02 mg/kg/hr to achieve a RASS of -2. The patient weighs 106lb. What will be the starting rate on the IV pump (ml/hr)?



17. The 88kg client with ITP is to receive IVIG at a rate of 1 mg/kg/min, then 8 mg/kg/min, if tolerated, every 3 weeks. The client tolerated their first dose and has returned to the infusion clinic for their next dose. At what rate will the nurse confirm on the IV pump (ml/hr)?



18. The surgeon asks for 7.5 ml of 2% lidocaine. How many mg will be given subcutaneously?

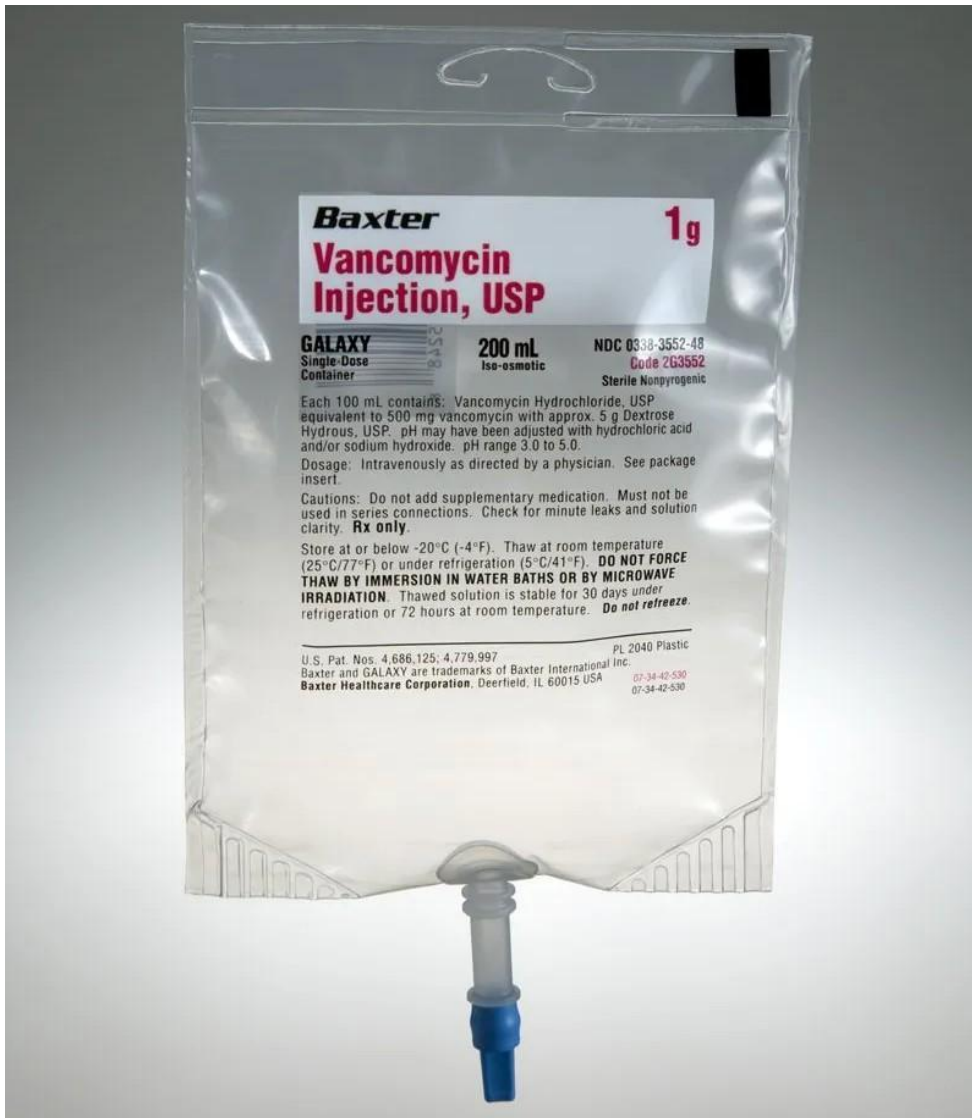


19. The endocrinologist asks the nurse to administer 12.5ml of dextrose from the vial below. How many grams of dextrose will the client receive?



mL/hour

20. You have a dose of Vancomycin to be given below over 2 hours. What rate will you program into the IV pump (ml/hr)?



21. The client with severe pneumonia is to receive 50 mLs of 3.375g of Zosyn every 6 hours over 4 hours. What rate will this infuse at (ml/hr)?

22. 1g of Ceftriaxone below is to be administered over 30 min q24 hours. What rate will the IV pump be set to (ml/hr)?



MI/hr: what time will it finish?

23. Acetylcysteine is infusing for the client with a Tylenol overdose. Dosing is as follows: Loading dose 150 mg/kg in 200 ml over 60min, Second dose 50mg/kg in 500ml over 4 hours, and third dose 100 mg/kg in 1000mL over 16 hours. The 76kg client is now receiving their third dose and there is 950ml remaining. The time now is 0800 - when will it finish?

24. You have an infusion of eptifibatide infusing on your 99 kg client who has just arrived from the cath lab. It is infusing at 2 mcg/kg/min and there is a remaining volume of 75 ml. What time will the infusion complete if it is 2221?

Left Panel:

3 0085-1136-02 7

Manufactured for:
Merck Sharp & Dohme Corp.,
a subsidiary of
MERCK & CO. INC.
Whitehouse Station, NJ 08889, USA

Manufactured by:
Patheon Italia S.p.A.
Ferentino, 03013, Italy

Eptifibatide (active ingred.) Made in Belgium.
Formulated in Italy.

N+ and NOVAPLUS are registered
trademarks of Novation, LLC.

INTEGRILIN is a registered trademark
of Millennium Pharmaceuticals, Inc.

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Merck & Co., Inc.
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7003824000

Middle Panel:

NDC 0085-1136-02
75 mg/100 mL vial for
weight-adjusted infusion

(eptifibatide) Injection

INTEGRILIN®

75 mg
per **100 mL vial**
(0.75 mg per mL)

Single Use Vial
For Intravenous Use Only

Rx ONLY

NOVAPLUS®

Right Panel:

NDC 0085-1136-02
75 mg/100 mL vial for
weight-adjusted infusion

(eptifibatide) Injection

INTEGRILIN®

75 mg
per **100 mL vial**
(0.75 mg per mL)

Single Use Vial
For Intravenous Use Only

Rx ONLY

NOVAPLUS®

CONTENTS: Each mL contains 0.75 mg eptifibatide, 5.25 mg citric acid in water for injection. pH adjusted with sodium hydroxide, pH 5.35

USUAL DOSE: See accompanying package insert

STORAGE: Store refrigerated at 2-8°C (36-46°F). May be transferred to 25°C (77°F, USP Controlled Room Temperature) for up to 2 months. Must be discarded if not used within 2 months of transfer. Protect from light until administration.

Discard if not used within 2 months of transfer to 25°C (77°F). Discard by:

(month) / (day) / (year)

(to be completed by dispensing pharmacist)

25. You have a dose of Levetiracetam below to administer at 400ml/hr. The time now is 1450. When will it finish?

1 x 100 mL

TO OPEN: TEAR AT NOTCH

NDC 55150-246-47

Rx only

Levetiracetam

in 0.82% Sodium Chloride Injection

500 mg per 100 mL
(5 mg / mL)

For Intravenous Infusion Only



INFUSE OVER A PERIOD OF 15 MINUTES

Each 100 mL contains: 500 mg levetiracetam USP (5 mg/mL), water for injection, 820 mg sodium chloride, 5.5 mg of glacial acetic acid and buffered at approximately pH 5.5 with glacial acetic acid and 164 mg sodium acetate trihydrate.

Usual Dosage: See prescribing information.

CAUTION: Do not use plastic containers in series connections.

Levetiracetam in 0.82% Sodium Chloride Injection should not be further diluted prior to its use.

For use only with a calibrated infusion device.

TO OPEN: TEAR AT NOTCH. Do not use if overwrap has been previously opened or damaged. Use unit promptly once overwrap is removed.

Recommended storage: Store at 20° to 25°C (68° to 77°F) [see USP Controlled Room Temperature].

Single-dose dual port bag with an aluminum overwrap. Discard unused portion.

The container closure is not made with natural rubber latex.

Distributed by:

AuroMedics Pharma LLC
279 Princeton-Hightstown Rd.
E. Windsor, NJ 08520

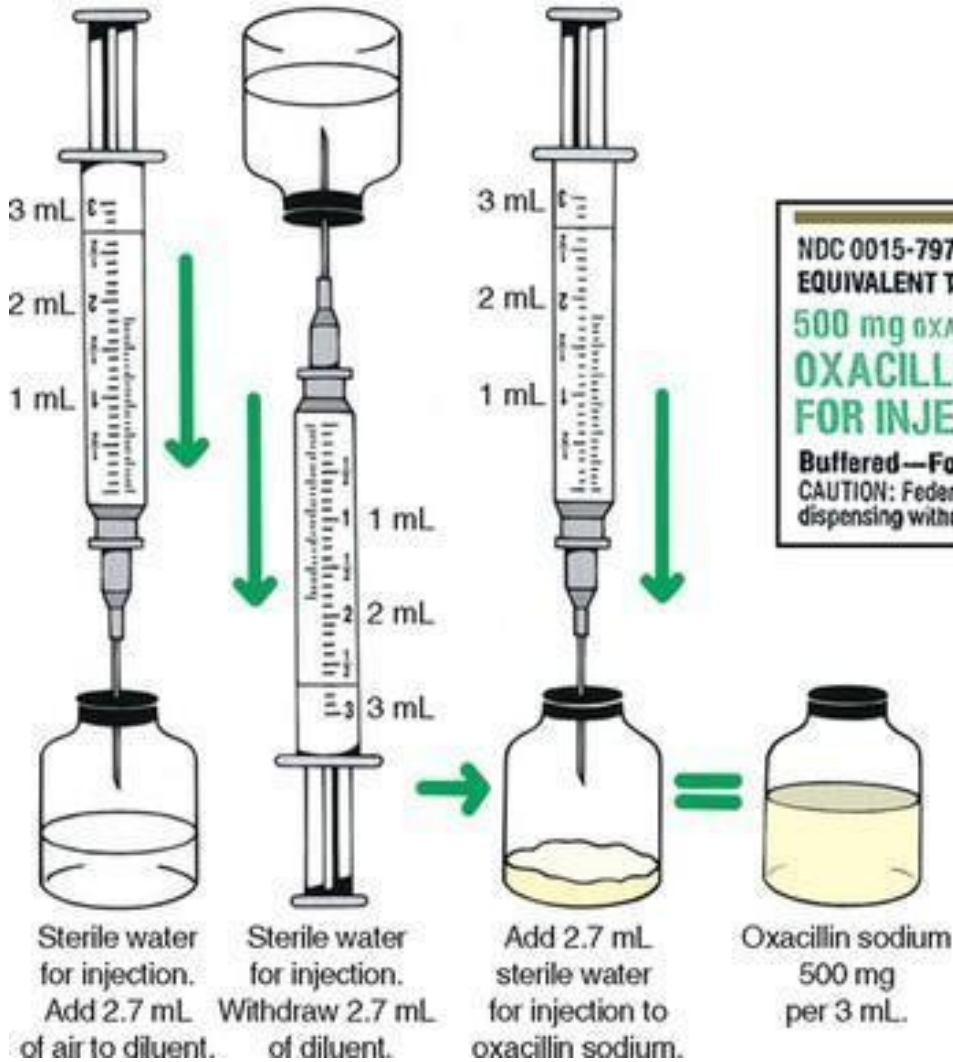
Code: TS/DRUGS/01/2013/LVP

Made in India
P4000278



Reconstitute medication in a syringe

26. Your 24kg 7-year-old client has a dose of 20mg/kg of Oxacillin IV push. The packaging instructions are below. How much will you draw up into the syringe for the ordered dose?



NDC 0015-7979-20
EQUIVALENT TO
**500 mg OXACILLIN
OXACILLIN SODIUM
FOR INJECTION, USP**

Buffered—For IM or IV Use
CAUTION: Federal law prohibits dispensing without prescription.

This vial contains oxacillin sodium monohydrate equivalent to 500 mg oxacillin and 10 mg dibasic sodium phosphate. • Add 2.7 mL Sterile Water for Injection, USP. • Each 1.5 mL contains 250 mg oxacillin. **Usual Dosage: Adults—250 mg to 500 mg intramuscularly every 4 to 6 hours. See circular for intravenous use.**

READ ACCOMPANYING CIRCULAR
Discard solution after 3 days at room temperature or 7 days under refrigeration.

Distributed by **APOTHECON®**
A Becton-Dickinson Company
Princeton, NJ 08540
79792000L-1
MADE IN USA

Cont:
Exp. Date:

27. You are to administer 0.08 mg/kg of vecuronium below to achieve ventilatory synchrony in the 142 kg client. How many mL will you draw up for this dose?

NDC 0703-2925-03 **Rx only**

Vecuronium

Bromide for Injection


20 mg*

*1 mg/mL when reconstituted to 20 mL
For IV Use Only
Sterile
10 x 20 mL Vials

When reconstituted with 20 mL of sterile water for injection, USP, the resultant solution will contain per mL: vecuronium bromide, 1 mg; citric acid anhydrous, USP, 2.075 mg; sodium phosphate dibasic anhydrous, USP, 1.625 mg; mannitol, USP, (to adjust tonicity) 9.7 mg. pH is adjusted with sodium hydroxide and/or phosphoric acid if necessary. pH: 3.5–4.5. When reconstituted with bacteriostatic water for injection, USP: **CONTAINS BENZYL ALCOHOL, WHICH IS NOT FOR USE IN NEWBORNS.** Use within 5 days. May be stored at room temperature or refrigerated. OR If reconstituted with sterile water for injection, USP, or other compatible IV solutions:
Refrigerate vial.
Use within 24 hours.
Single use only.
Discard unused portion.

WARNING: Vecuronium Bromide for Injection may cause respiratory depression. Facilities for artificial respiration must be immediately available.

Usual Dosage: See Package Insert.
Protect from light.
Store at 20° to 25°C (68° to 77°F)
[See USP Controlled Room Temperature].
Teva Parenteral Medicines, Inc., Irvine, CA 92618
Rev. A 10/2011



Y10677

TEVA

28. You are to administer 240mg of Rocephin to the pediatric client. How many mL will you draw up?

NDC 0004-1963-02

Rocephin®

(Ceftriaxone for Injection USP)

500 mg

Single-Use Vial

For intramuscular or intravenous use.

Each vial contains ceftriaxone sodium powder equivalent to 500 mg ceftriaxone.

Rx only

500 mg/15 mL Vial
1 Vial



mg/kg/day-how many mL will you give for one dose

29. Your 102lb client is to receive 100mg/kg/day of Ceftriaxone in 2 divided doses. How many mL will you give for the first dose?

NDC 68180-633-01

Single Use Vial

Ceftriaxone for Injection USP

1 g

For I.M. or I.V. Use

Rx only

Each vial contains sterile ceftriaxone sodium USP equivalent to ceftriaxone 1 g.



LUPIN

For I.M. Administration: Reconstitute with 2.1 mL 1% Lidocaine Hydrochloride Injection (USP) or Sterile Water for Injection (USP). Each 1 mL of solution contains approximately 350 mg equivalent of ceftriaxone.

For I.V. Administration: See package insert.

USUAL DOSAGE: See package insert.

Storage Prior to Reconstitution: Store powder at 20° to 25°C (68° to 77°F) [See USP Controlled Room Temperature].

Storage After Reconstitution: See package insert.

PROTECT FROM LIGHT

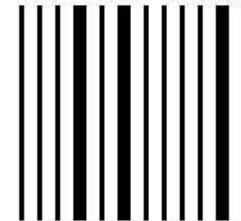
Manufactured for:

Lupin Pharmaceuticals, Inc.

Baltimore, Maryland 21202 United States

Made in India

Code No.: GUJ/DRUGS/G/28A/3759-A



252808

Lot No.:

Exp.:

8.5 x 26 mm

30. The 77kg client with Infective endocarditis is to receive 300,000 units of Penicillin G per kg per day in six divided doses. How many mL will be given with the last dose if 3.2 mL of diluent is used?

Lot:

Exp.:



(01)00370860126418

***Each vial contains: Penicillin G Potassium, equivalent to 5,000,000 units (5 million units) of penicillin G as the potassium salt. Each million unit contains approximately 6.8 mg of sodium (0.3 mEq) and 65.6 mg of potassium (1.68 mEq). Buffered with sodium citrate to optimum pH.**

Usual Dosage: See package insert. Average single intramuscular injection: 200,000 to 400,000 units. Intravenous: See insert.

mL diluent added Units per mL of solution

18.2 mL	250,000 units per mL
8.2 mL	500,000 units per mL
3.2 mL	1,000,000 units per mL

Store dry powder at 20° to 25°C (68° to 77°F). [See USP.] After reconstitution, solution should be refrigerated. DISCARD UNUSED SOLUTION AFTER 7 DAYS.

Date / By _____ units/mL

Mfd. for Athenex | Schaumburg, IL 60173 (USA)

Mfd. by Istituto Biochimico Italiano

Made in Italy | ©2019 Athenex. | 815002

NDC 70860-126-41

Rx only

Buffered

**Penicillin G
Potassium**
for Injection, USP

5,000,000 units*
per vial
(5 million units* per vial)

For Intramuscular or
Intravenous Use

Athenex

gtt/min

31. A 4-state mega-tornado has landed and the power is out at your hospital. You have the following tubing below on hand. What will your flow rate (gtt/min) be for an ordered infusion of Lactated Ringers over 10 hours?

CLEARLINK System
CONTINU-FLO Solution Set
112" (2.8 m), 2 Luer Activated Valves
Male Luer Lock Adapter with Retractable Collar

Fluid path is sterile, nonpyrogenic.
Cautions: Do not use if tip protectors (1) are not in place.
Do not place on sterile field.

Directions: Use aseptic technique.
Close regulating clamp (7). Insert spike (2) into solution container. Fill drip chamber (3) to fill line. Open regulating clamp (7). If flow does not start, squeeze plastic container. Invert and tap check valve (4) to purge air during priming. Prime set, purge air. Close regulating clamp (7) until roller meets bottom of frame. Attach male Luer adapter (8) to vascular access device using a firm push and twist motion and then engage the Luer lock collar to prevent accidental disconnection. Ensure downstream clamp is open. Swab Luer activated surface with preferred antiseptic prior to first use and before every subsequent connection. Access Luer activated valve (5) by firmly pushing male Luer of connecting device directly against Luer activated surface and rotate until connection is secure.

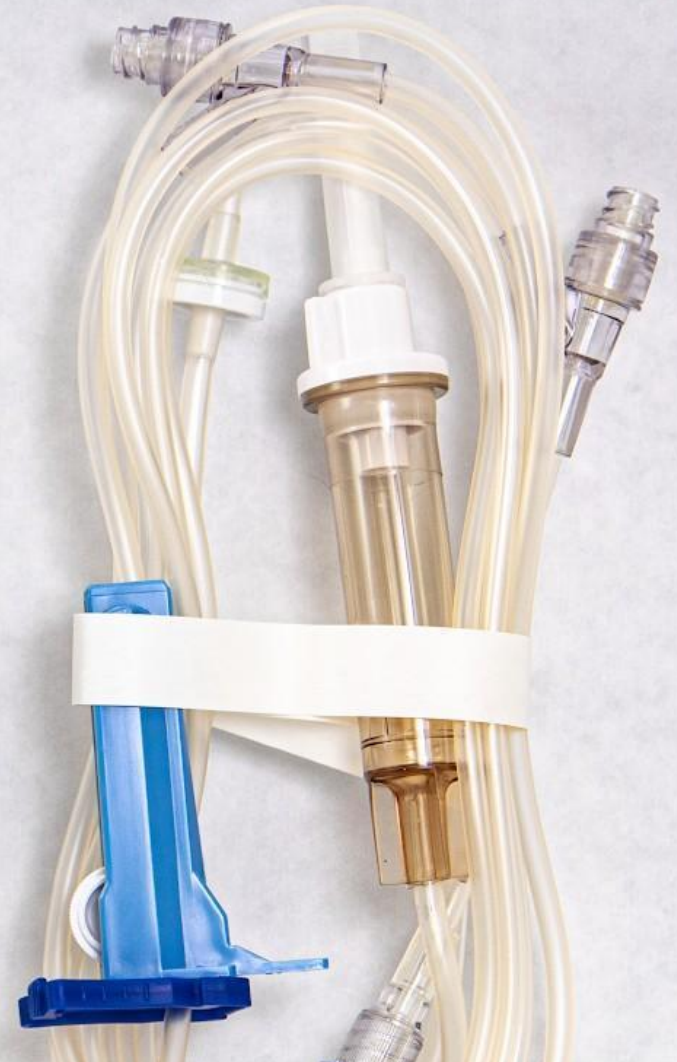

To properly set flow, always close regulating clamp (7) until roller meets bottom of frame, then reopen to establish flow rate. Repeat procedure if adjusting clamp from fully open position.

Cautions: Do not allow air to be trapped in set. Puncturing set components may cause air embolism. Do not swab Luer activated surface (5) when downstream clamp is closed or valve is recessed. Ineffective swabbing may result. Replace set if valve remains recessed. Do not access Luer activated valve with needles or cannula. Attempting such access will render the product damaged, replace immediately. Use of Luer lock connection is recommended. If Luer slip connection is used, insert into valve using a firm push and twist motion. Do not leave Luer slip unattended. Trace lines before connection. Do not connect any compressed gas device to intravenous injection sites. Rx Only. Single use only. Do not resterilize.

Notes: This product is not made with natural rubber latex. This product contains DEHP. To stop flow without disturbing regulating device (7), close slide clamp (6). Flush Luer activated valve (5) after injection to prevent inadvertent mixing of incompatible medications/fluids. Flush Luer activated valve after blood infusion. If valve cannot be cleared of blood, replace immediately. For secondary medication administration, use upper Luer activated valve (5) only. See directions for use with secondary medication set. If intermittently disconnecting set from Luer activated valve, immediately cover male Luer of connecting device with a sterile replacement protector. When used in gravity mode, replace per CDC guidelines. When used with Baxter pumps or SIGMA Spectrum infusion system, replace/use per directions in respective pump labeling. When used with FLO-GARD pumps, replace after 24 hours. Lengths are approximate. For Product Information 1-800-933-0303

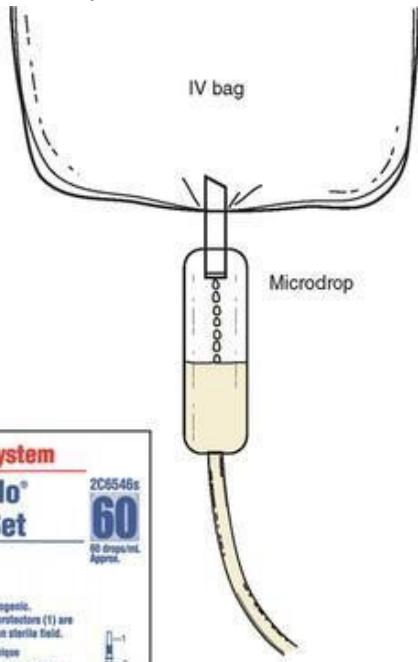
Baxter
Manufactured by an affiliate of
Baxter Healthcare Corporation
Deerfield, IL 60015 USA
Made in Costa Rica
07-36-74-349 Rev 2016-04-01

2C8519 s
10
10 drops/mL
Approx.



8

32. The client in acute renal failure requires an infusion of sodium bicarbonate at 150 ml/hr. A nationwide cyberattack occurs and all IV pumps and computer systems are down. The only available drip tubing is below. What will be the drop factor (gtt/min)?



InterLink® System
Continu-Flo® Solution Set 206546s
60
 60 drops/ml Approx.

3 Injection Sites
 Luer Lock Adapter
 105" long (2.7 m)

Fluid path is sterile, nonpyrogenic.
 Caution: Do not use if tip protectors (1) are not in place. Do not place on sterile field.

Directions: Use aseptic technique
 Close regulating clamp (7). Insert spike (2) into solution container. Fill drip chamber (3) to fill line. Open regulating clamp (7). Insert and top check valve (4) to purge air during priming. If flow does not start reverse plastic container. Prime set, purge air. Close regulating clamp (7) until roller meets bottom of frame. Attach Luer lock adapter (8) to InterLink® cannula or vascular access device.

To properly set flow, always close regulating clamp (7) until roller meets bottom frame, then reopen to establish flow rate. Repeat procedure if adjusting clamp from fully open position.

Caution:
 Do not allow air to be trapped in set.
 Puncturing set components may cause air embolism.
 Close secondary set clamp when flow rate exceeds 350 ml per hour to prevent air from being drawn into set.
 If needle must be used, insert small gauge needle into perimeter of septum.
 Federal USA law restricts this device to sale by or on order of a physician.
 Single use only. Do not reenter.

Notes:
 Swab septum of injection site (5) with antiseptic prior to access.
 Access InterLink® injection site (identified by colored ring) with InterLink® cannula. See cannula directions. For secondary medication administration, use upper Y-injection site only. See directions for use with secondary medication set.
 To stop flow without disturbing regulating device (7), cross lowest slide clamp (6).
 Replace per CDC guidelines.
 For Product Information 1-800-823-0303

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 Manufactured by an affiliate of Baxter Healthcare Corporation, Deerfield, IL 60015 USA. Made in Singapore. 7-04-1-086A 605 Pat. Pending

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7

H18206546318

Units/mL-how many mL will you give

33. You have to give 94 units of insulin this morning for the diabetic client. How many mL will you be giving subcutaneously if these are the only insulin syringes on hand?



34. You have an order for 10,000 units of heparin SQ twice daily. You have these vials on hand. How many mL will be given?



Insulin Sliding Scale

1. $12 \text{ units Lispro} + 22 \text{ units glargine} + 20 \text{ units NPH} = 54 \text{ units total}$

2. $[0.8 \times 60 \text{ units}] = 48 \text{ total units NPH per day}$

$$\frac{48 \text{ units}}{\text{day}} \times \frac{1 \text{ day}}{2 \text{ doses}} = 24 \text{ units/dose}$$

3. $14 \text{ units} + 14 \text{ units} + 22 \text{ units} + 18 \text{ units regular} = 68 \text{ units of regular insulin, total}$

4. $\frac{1 \text{ unit}}{15 \text{ g Carbs}} \times \frac{120 \text{ g Carbs}}{\text{meal}} = 8 \text{ units/meal}$

5. $18 \text{ units Regular} + 32 \text{ units} \frac{70}{30} + 0 \text{ units Lispro} = 50 \text{ units total}$

Fahrenheit to Centigrade

6. $(28.1 \times \frac{9}{5}) + 32 = 82.58 = 82.6 F$

7. $(99.7 - 32) \frac{5}{9} = 37.6, \text{ yes}$

8. $37 C - (4 \text{ hr} \times \frac{0.25 C}{1 \text{ hr}}) = 36 C \text{ (current temp)}$

$$(36 \times \frac{9}{5}) + 32 = 96.8 F$$

9. $(33.2 \times \frac{9}{5}) + 32 = 91.76 = 91.8 F$

10. $(101.8 - 32) \frac{5}{9} = 38.77 = 38.8 C$

mcg/kg/min to mL/hour (Weight Dosing)

11. $\frac{250 \text{ ml}}{40 \text{ mg}} \times \frac{1 \text{ mg}}{1000 \text{ mcg}} \times \frac{0.5 \text{ mcg}}{\text{kg/min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{92 \text{ kg}}{\text{pt}} = 17.25 = 17.3 \text{ ml/hr}$

$$12. \frac{50 \text{ ml}}{50 \text{ mg}} \times \frac{0.02 \text{ mg}}{\text{kg/hr}} \times \frac{1 \text{ kg}}{2.2 \text{ lb}} \times \frac{106 \text{ lb}}{\text{pt}} = 0.963 = 1 \text{ ml/hr}$$

$$13. \frac{1 \text{ ml}}{10,000 \text{ ng}} \times \frac{20 \text{ ng}}{\text{kg/min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{1 \text{ kg}}{2.2 \text{ lb}} \times \frac{303 \text{ lb}}{\text{pt}} = 16.52 = 16.5 \frac{\text{ml}}{\text{hr}}$$

$$14. \frac{100 \text{ ml}}{20 \text{ mg}} \times \frac{1 \text{ mg}}{1000 \text{ mcg}} \times \frac{0.375 \text{ mcg}}{\text{kg/min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{102 \text{ kg}}{\text{pt}} = 11.475 = 11.5 \text{ ml/hr}$$

% solution to grams of dextrose

$$15. \frac{100 \text{ ml}}{50 \text{ g}} \times \frac{12.5 \text{ g}}{\text{dose}} = 25 \text{ ml}$$

$$16. \frac{100 \text{ ml}}{20 \text{ g}} \times \frac{1.5 \text{ g}}{\text{kg}} \times \frac{1 \text{ kg}}{2.2 \text{ lb}} \times \frac{180 \text{ lb}}{\text{pt}} = 613.63 = 613.6 \text{ ml}$$

$$17. \frac{100 \text{ ml}}{10 \text{ g}} \times \frac{1 \text{ g}}{1000 \text{ mg}} \times \frac{8 \text{ mg}}{\text{kg/min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times \frac{88 \text{ kg}}{\text{pt}} = 422.4 \text{ ml/hr}$$

$$18. \frac{2 \text{ g}}{100 \text{ mL}} \times \frac{1000 \text{ mg}}{1 \text{ g}} \times \frac{7.5 \text{ mL}}{\text{dose}} = 150 \text{ mg}$$

$$19. \frac{50 \text{ g}}{100 \text{ mL}} \times \frac{12.5 \text{ mL}}{\text{dose}} = 6.25 \text{ g}$$

mL/hour

$$20. \frac{200 \text{ mL}}{2 \text{ hours}} = 100 \text{ mL/hr}$$

$$21. \frac{50 \text{ mL}}{4 \text{ hours}} = 12.5 \text{ mL/hr}$$

$$22. \frac{50 \text{ mL}}{\text{dose}} \times \frac{\text{dose}}{30 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} = 100 \text{ mL/hr}$$

MI/hr: what time will it finish?

$$23. \frac{16 \text{ hr}}{1000 \text{ mL}} \times \frac{950 \text{ ml}}{\text{dose remaining}} = 15.2 \text{ hr}$$

$$\frac{0.2 \text{ hr}}{\text{dose}} \times \frac{60 \text{ min}}{1 \text{ hr}} = 12 \text{ min}, 0800 + 15 \text{ hr } 12 \text{ min} = 2312$$

$$24. \frac{100 \text{ ml}}{75 \text{ mg}} \times \frac{1 \text{ mg}}{1000 \text{ mcg}} \times \frac{2 \text{ mcg}}{\text{kg/min}} \times \frac{99 \text{ kg}}{\text{pt}} \times \frac{60 \text{ min}}{1 \text{ hr}} = 15.84 \text{ ml/hr}$$

$$\frac{1 \text{ hr}}{15.84 \text{ mL}} \times \frac{75 \text{ ml}}{\text{remaining}} = 4.73 \text{ hr} \frac{0.73 \text{ hr}}{\text{dose}} \times \frac{60 \text{ min}}{1 \text{ hr}} = 43.8 = 44 \text{ min } 2221 + 4 \text{ h } 44 \text{ min} = (2600 \text{ h} - 2400 \text{ h})$$

+65min=0305

$$25. \frac{100 \text{ mL}}{\text{dose}} \times \frac{1 \text{ hr}}{400 \text{ ml}} = 0.25 \text{ hr}$$

$$\frac{0.25 \text{ hr}}{\text{dose}} \times \frac{60 \text{ min}}{1 \text{ hr}} = 15 \text{ min } 1450 + 15 \text{ min} = 1505$$

Reconstitute medication in a syringe

$$26. \frac{3 \text{ mL}}{500 \text{ mg}} \times \frac{20 \text{ mg}}{\text{kg}} \times \frac{24 \text{ kg}}{\text{pt}} = 2.88 = 2.9 \text{ ml}$$

$$27. \frac{1 \text{ mL}}{1 \text{ mg}} \times \frac{0.08 \text{ mg}}{\text{kg}} \times \frac{142 \text{ kg}}{\text{pt}} = 11.36 = 11.4 \text{ ml}$$

$$28. \frac{15 \text{ mL}}{500 \text{ mg}} \times \frac{240 \text{ mg}}{\text{dose}} = 7.2 \text{ ml}$$

mg/kg/day-how many mL will you give for one dose

$$29. \frac{1 \text{ mL}}{350 \text{ mg}} \times \frac{100 \text{ mg}}{\text{kg/day}} \times \frac{1 \text{ day}}{2 \text{ doses}} \times \frac{1 \text{ kg}}{2.2 \text{ lb}} \times \frac{102 \text{ lb}}{\text{pt}} = 6.62 = 6.6 \text{ ml}$$

$$30. \frac{1 \text{ mL}}{1,000,000 \text{ units}} \times \frac{300,000 \text{ units}}{\text{kg/day}} \times \frac{1 \text{ day}}{6 \text{ doses}} \times \frac{77 \text{ kg}}{\text{pt}} = 3.85 = 3.9 \text{ ml}$$

gtt/min

$$31. \frac{10 \text{ gtt}}{1 \text{ ml}} \times \frac{1000 \text{ ml}}{1 \text{ L}} \times \frac{1 \text{ L}}{10 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min}} = 16.67 = 17 \text{ gtt/min}$$

$$32. \frac{60 \text{ gtt}}{1 \text{ ml}} \times \frac{150 \text{ ml}}{1 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min}} = 150 \text{ gtt/min}$$

units/mL-how many mL will you give

$$33. \frac{1 \text{ mL}}{100 \text{ units}} \times \frac{94 \text{ units}}{\text{dose}} = 0.94 \text{ mL}$$

$$34. \frac{1 \text{ mL}}{5000 \text{ units}} \times \frac{10000 \text{ units}}{\text{dose}} = 2 \text{ mL}$$

ISMP's List of Error-Prone Abbreviations, Symbols, and Dose Designations (continued)

Dose Designations and Other Information	Intended Meaning	Misinterpretation	Correction
Drug name and dose run together (especially problematic for drug names that end in "t" such as Inderal40 mg; Tegretol300 mg)	Inderal 40 mg Tegretol 300 mg	Mistaken as Inderal 140 mg Mistaken as Tegretol 1300 mg	Place adequate space between the drug name, dose, and unit of measure
Numerical dose and unit of measure run together (e.g., 10mg, 100mL)	10 mg 100 mL	The "m" is sometimes mistaken as a zero or two zeros, risking a 10- to 100-fold overdose	Place adequate space between the dose and unit of measure
Large doses without properly placed commas (e.g., 100000 units; 1000000 units)	100,000 units 1,000,000 units	100000 has been mistaken as 10,000 or 1,000,000; 1000000 has been mistaken as 100,000	Use commas for dosing units of or above 1,000, or use words such as 100 "thousand" or 1 "million" to improve readability
Drug Name Abbreviations	Intended Meaning	Misinterpretation	Correction
To avoid confusion, do not abbreviate drug names when communicating medical information. Examples of drug name abbreviations involved in medication errors include:			
APAP	acetaminophen	Not recognized as acetaminophen	Use complete drug name
ARA A	vidarabine	Mistaken as cytarabine (ARA C)	Use complete drug name
AZT	zidovudine (Retrovir)	Mistaken as azathioprine or aztreonam	Use complete drug name
CPZ	Compazine (prochlorperazine)	Mistaken as chlorpromazine	Use complete drug name
DPT	Demerol-Phenergan-Thiorazine	Mistaken as diphtheria-pertussis-tetanus (vaccine)	Use complete drug name
OTO	Diluted tincture of opium, or deodorized tincture of opium (Paregoric)	Mistaken as tincture of opium	Use complete drug name
HCl	hydrochloric acid or hydrochloride	Mistaken as potassium chloride (The "H" is misinterpreted as "K")	Use complete drug name unless expressed as a salt of a drug
HCT	hydrocortisone	Mistaken as hydrochlorothiazide	Use complete drug name
HCTZ	hydrochlorothiazide	Mistaken as hydrocortisone (seen as HCT250 mg)	Use complete drug name
MgSO4**	magnesium sulfate	Mistaken as morphine sulfate	Use complete drug name
MS, MSO4**	morphine sulfate	Mistaken as magnesium sulfate	Use complete drug name
MTX	methotrexate	Mistaken as mitoxantrone	Use complete drug name
PCA	prochlorperamide	Mistaken as patient controlled analgesia	Use complete drug name
PTU	propylthiouracil	Mistaken as mercaptopurine	Use complete drug name
T3	Tylenol with codeine No. 3	Mistaken as lithium	Use complete drug name
TAC	triamcinolone	Mistaken as tetracaine, Adrenalin, cocaine	Use complete drug name
TNK	TNKase	Mistaken as "TPA"	Use complete drug name
ZnSO4	zinc sulfate	Mistaken as morphine sulfate	Use complete drug name
Stammered Drug Names	Intended Meaning	Misinterpretation	Correction
"Nitra" drip	nitroglycerin infusion	Mistaken as sodium nitropruside infusion	Use complete drug name
"Norflex"	norfloxacin	Mistaken as Norflex	Use complete drug name
"IV Vanc"	intravenous vancomycin	Mistaken as Inwarz	Use complete drug name
Symbols	Intended Meaning	Misinterpretation	Correction
℥	Dram	Symbol for dram mistaken as "3"	Use the metric system
℥	Minim	Symbol for minim mistaken as "mL"	
x3d	For three days	Mistaken as "3 doses"	Use "for three days"
> and <	Greater than and less than	Mistaken as opposite of intended; mistakenly use incorrect symbol; "< 10" mistaken as "40"	Use "greater than" or "less than"
/ (slash mark)	Separates two doses or indicates "per"	Mistaken as the number 1 (e.g., "25 units/10 units" misread as "25 units and 10" units)	Use "per" rather than a slash mark to separate doses
@	At	Mistaken as "2"	Use "at"
&	And	Mistaken as "2"	Use "and"
+	Plus or and	Mistaken as "4"	Use "and"
•	Hour	Mistaken as a zero (e.g., q2 [•] seen as q 20)	Use "hr," "h," or "hour"
Φ 0 r ∞	zero, null sign	Mistaken as numerals 4, 6, 8, and 9	Use 0 or zero, or describe intent using whole words

**These abbreviations are included on The Joint Commission's "minimum list" of dangerous abbreviations, acronyms, and symbols that must be included on an organization's "Do Not Use" list, effective January 1, 2004. Visit www.jointcommission.org for more information about this Joint Commission requirement.

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ISMP's List of Error-Prone Abbreviations, Symbols, and Dose Designations

The abbreviations, symbols, and dose designations found in this table have been reported to ISMP through the ISMP National Medication Errors Reporting Program (ISMP MERP) as being frequently misinterpreted and involved in harmful medication errors. They should **NEVER** be used when commu-

nicating medical information. This includes internal communications, telephone/verbal prescriptions, computer-generated labels, labels for drug storage bins, medication administration records, as well as pharmacy and prescriber computer order entry screens.

Abbreviations	Intended Meaning	Misinterpretation	Correction
µg	Microgram	Mistaken as "mg"	Use "mcg"
AD, AS, AU	Right ear, left ear, each ear	Mistaken as OD, OS, OU (right eye, left eye, each eye)	Use "right ear," "left ear," or "each ear"
OD, OS, OU	Right eye, left eye, each eye	Mistaken as AD, AS, AU (right ear, left ear, each ear)	Use "right eye," "left eye," or "each eye"
BT	Bedtime	Mistaken as "BID" (twice daily)	Use "bedtime"
cc	Cubic centimeters	Mistaken as "u" (units)	Use "mL"
D/C	Discharge or discontinue	Premature discontinuation of medications if D/C (intended to mean "discharge") has been misinterpreted as "discontinued" when followed by a list of discharge medications	Use "discharge" and "discontinue"
IJ	Injection	Mistaken as "IV" or "intrajugular"	Use "injection"
IN	Intranasal	Mistaken as "IM" or "IV"	Use "intranasal" or "NAS"
HS	Half-strength	Mistaken as bedtime	Use "half-strength" or "bedtime"
hs	At bedtime, hours of sleep	Mistaken as half-strength	
IU**	International unit	Mistaken as IV (intravenous) or 10 (ten)	Use "units"
o.d. or OD	Once daily	Mistaken as "right eye" (OD=oculus dexter), leading to oral liquid medications administered in the eye	Use "daily"
OJ	Orange juice	Mistaken as OD or OS (right or left eye); drugs meant to be diluted in orange juice may be given in the eye	Use "orange juice"
Per os	By mouth, orally	The "os" can be mistaken as "left eye" (OS=oculus sinister)	Use "PO," "by mouth," or "orally"
q.d. or QD**	Every day	Mistaken as q.i.d., especially if the period after the "q" or the tail of the "q" is misunderstood as an "f"	Use "daily"
qhs	Nightly at bedtime	Mistaken as "qhr" or every hour	Use "nightly"
qn	Nightly or at bedtime	Mistaken as "qh" (every hour)	Use "nightly" or "at bedtime"
q.o.d. or QOD**	Every other day	Mistaken as "q.d." (daily) or "q.i.d." (four times daily) if the "o" is poorly written	Use "every other day"
qId	Daily	Mistaken as q.i.d. (four times daily)	Use "daily"
q6PM, etc.	Every evening at 6 PM	Mistaken as every 6 hours	Use "daily at 6 PM" or "6 PM daily"
SC, SQ, sub q	Subcutaneous	SC mistaken as SL (sublingual); SQ mistaken as "5 every," the "q" in "sub q" has been mistaken as "every" (e.g., a heparin dose ordered "sub q 2 hours before surgery" misunderstood as every 2 hours before surgery)	Use "subcut" or "subcutaneously"
ss	Sliding scale (insulin) or ½ (apothecary)	Mistaken as "55"	Spell out "sliding scale," use "one-half" or "½"
SSRI	Sliding scale regular insulin	Mistaken as selective-serotonin reuptake inhibitor	Spell out "sliding scale (insulin)"
SSI	Sliding scale insulin	Mistaken as Strong Solution of Iodine (Lugol's)	
qd	One daily	Mistaken as "qd"	Use "1 daily"
TIW or tW	3 times a week	Mistaken as "3 times a day" or "twice in a week"	Use "3 times weekly"
U or u**	Unit	Mistaken as the number 0 or 4, causing a 10-fold overdose or greater (e.g., 4U seen as "40" or 4u seen as "44"); mistaken as "cc" so dose given in volume instead of units (e.g., 4u seen as 4cc)	Use "unit"
UD	As directed ("ut dictum")	Mistaken as unit dose (e.g., diltiazem 125 mg IV infusion "UD" misinterpreted as meaning to give the entire infusion as a unit [bolus] dose)	Use "as directed"
Dose Designations and Other Information	Intended Meaning	Misinterpretation	Correction
Trailing zero after decimal point (e.g., 1.0 mg)**	1 mg	Mistaken as 10 mg if the decimal point is not seen	Do not use trailing zeros for doses expressed in whole numbers
"Naked" decimal point (e.g., .5 mg)**	0.5 mg	Mistaken as 5 mg if the decimal point is not seen	Use zero before a decimal point when the dose is less than a whole unit
Abbreviations such as mg, or mL, with a period following the abbreviation	mg mL	The period is unnecessary and could be mistaken as the number 1 if written poorly	Use mg, mL, etc. without a terminal period