



Health and Safety Sciences

# **ASSOCIATE DEGREE NURSING PROGRAM**

**Mandatory Resource  
Manual**

*(ADN Student Survival Kit)*

# **Fall 2025**

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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**

## 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 interacting 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.

### 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.

### CONCEPTUAL FRAMEWORK (CONTINUED)

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

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

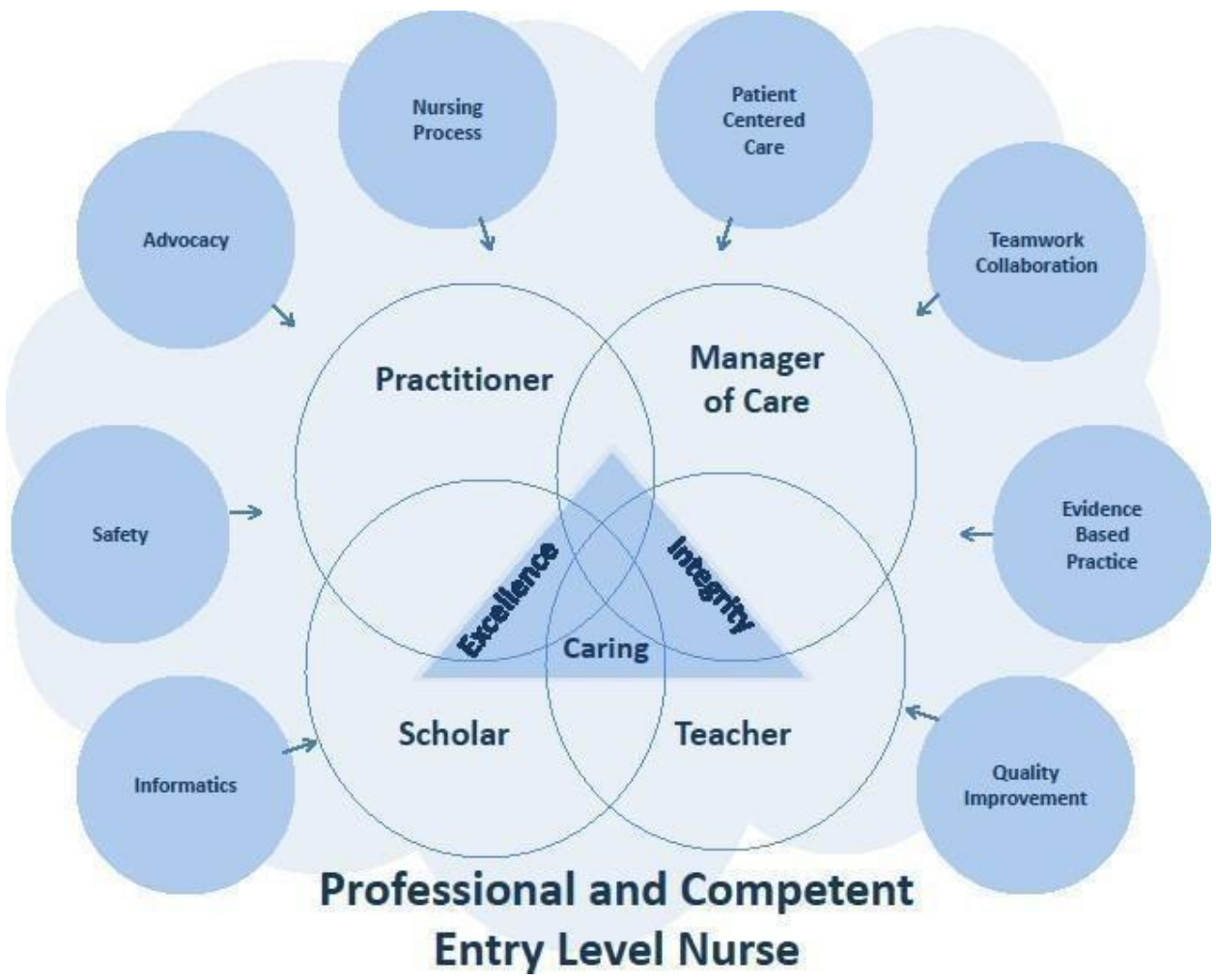
**Quality Improvement:** Use data to monitor the outcomes of care processes and use improvement methods to design and test changes to continuously improve the quality and safety of health care systems.

**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.



## **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)

## **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.

**STUDENT LEARNING OUTCOMES (SLOs)**

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**

## NURSING SKILLS LAB COURSE

NURSING COURSE	SIGN IN TO LAB COURSE
<b>FIRST SEMESTER</b> <b>Ns 101A</b>	<b>NS 911L</b>
<b>SECOND SEMESTER</b> <b>NS 102A (OB)</b>	<b>NS 912L</b>
<b>SECOND SEMESTER</b> <b>NS 103A (MS 1)</b>	<b>NS 913L</b>
<b>THIRD SEMESTER</b> <b>NS 201A (PSYCH)</b>	<b>NS 921L</b>
<b>THIRD SEMESTER</b> <b>NS 202A (MS 2)</b>	<b>NS 922L</b>
<b>FOURTH SEMESTER</b> <b>NS 203A (PEDS)</b>	<b>NS 923L</b>
<b>FOURTH SEMESTER</b> <b>NS 204A (MS 3)</b>	<b>NS 924L</b>



## **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 are 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. Undergarments that can be seen should be white, or “nude” or lighter than the scrubs so that they cannot be seen.

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. The clinic for mental health nursing is to wear any solid colored matching uniform, not the designated school uniform.

### **Equipment requirements for the clinical site are:**

- BP Cuff for practice only
- Photo identification badge
- Pencil
- Plain white socks or non-textured hose (must cover the ankles)
- Black Pen

- Bandage scissors
- Penlight
- Kelly forceps
- Stethoscope
- Watch with a second hand
- Calculator (optional)
- Calipers (optional)
- Fine tip black Sharpie pen
- Spiral notebook, 3" x 5"
- 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 clinical experience. Uniforms must be clean and pressed. The only acceptable jewelry to be worn are wedding rings, wristwatch, medical bracelets, and one pair of small (4 mm) plain studs in pierced lower ear lobes, if you choose to wear earrings. There should be no hair bows or large hair bands. Hair clips should be plain color. 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. Fingernails are to be no longer than the tip of the finger or thumb. 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.

Policies of the Associate Degree Nursing Program:

2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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 of absence.
8. 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 excuse 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.

9. Absence from clinical

The student is responsible for personal notifications of the clinical instructor prior to the beginning of the day.

10. 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.

11. Assignment to clinical groups

Students register for clinical groups according to the schedule of classes. Students who have satisfactorily completed prerequisite courses in the 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. If the illness is related to COVID, the student is to follow the college policy on reporting, quarantining, and masking.
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, updated booster Covid-19 and the seasonal flu vaccine. These are required by health care facilities in which the student will be practicing as a student nurse. For the Covid-19 and the flu vaccination, a declination form needs to be signed and filed appropriately. The student nurse must wear a mask during the clinical rotation at the medical facility attending. The college does not provide immunizations.
4. Upon entering 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. 70% must be achieved on all theory exams independent of clinical points.
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 the 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, 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 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. A withdrawal at any time counts as a strike in the program.

8. Cheating will be handled according to College Board Policy.

## **ACADEMIC VIOLATIONS**

- 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.
- 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 an academic honesty violation 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.
- 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 the need for reasonable accommodations 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 accommodation is required to perform essential job functions and identify effective accommodations that would not pose an undue hardship.

## **TRANSPORTATION**

Each student is responsible for their 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.

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

## **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 an active 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 are encouraged to report all misdemeanor and felony convictions. “Driving under the influence” convictions should 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.

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

As of July 1, 2020, applicants will no longer be asked about prior criminal conviction history. Criminal history will be discovered upon receipt of fingerprint results. All applicants with a history of criminal conviction will have their applications referred for an additional Enforcement Division review.

Convictions within seven years from the date of application will receive a full enforcement review. The Board will not take action on any convictions that have been expunged under Penal Code section 1203.4 or dismissed, including expunged convictions within the seven years.

The Board will not take action on convictions older than seven years, with exceptions. If the applicant was convicted of a serious felony as defined in [section 1192.7 of the Penal Code](#) or a crime for which registration is required pursuant to paragraph (2) or (3) of subdivision (d) of section [290 of the Penal Code](#), the BRN will consider the conviction even if it is more than seven years ago.

When reporting prior convictions or disciplinary action, applicants should 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 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 should also 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 first. For further clarification, the Associate Dean of Health and Safety Sciences is available for counseling.

### **STUDENT ATTENDANCE AT FACULTY, CURRICULUM AND PROGRAM**

#### **PLANNING/EVALUATION MEETINGS**

Students are encouraged to attend these meetings. Each year a student will be elected from CNSA to represent them at these meetings. The purpose of this participation is for the students to share input into the nursing program. There may be executive sessions for which students will be excused. (Closed Sessions)

#### **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 always the moral and professional responsibility (and obligation) of the nurse to 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.

## **Operating Room Guidelines for Antelope Valley Medical Center**

- 1) As soon as the student knows in the morning if his/her patient is having surgery that day, the charge nurse in the OR needs to be called.
- 2) A consent needs to be signed by the patient for approval of the student attending the surgery. (This will be done in OR)
- 3) The student has to change to the appropriate dress in the OR.
- 4) The student needs to **NOT** touch anything during the surgery.
- 5) The student needs to remain silent unless directed otherwise by the OR staff.
- 6) The student can follow the patient into the PACU.
- 7) If the student is asked to leave, the student needs to leave immediately without question.

## **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 (including NS101A).

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.

**The procedure for requesting removal of a strike is:**

In rare and extenuating circumstances, a student may be eligible to request the removal of a program strike. These circumstances include, but are not limited to, serious personal injury, prolonged illness, or comparable crises that directly interfere with the student's ability to complete a course successfully.

To be considered for an exception due to course withdrawal or unsuccessful completion, the student must have been in satisfactory academic standing in both theory and clinical—defined as earning a minimum course grade of 70% (in both theory and clinical)—at the time of withdrawal or failure to complete the course.

All requests for strike removal must be submitted in writing to the Director of Nursing within **30 calendar days** from **either**:

- The date the student officially withdrew from the course, **or**
- The official end date of the course.

Requests submitted after the 30-day period will not be considered. Supporting documentation (including the attrition letter) must accompany the request and clearly demonstrate the extenuating nature of the circumstances.

Submission of a request does not guarantee approval. All decisions regarding strike removal are at the discretion of the Director of Nursing in consultation with program faculty and are final.

**Re-entering/re-enrolling in the nursing program:**

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 Medical Center. 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 Medical Center’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 Medical Center 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 in this manual.

### **ELECTRONIC DEVICES**

The policy regarding the use of electronic devices in the classroom and during clinical experiences is in this manual.

### **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](mailto:communications@ncsbn.org).

### **AI USAGE POLICY**

The policy regarding the use of (Artificial Intelligence) AI in this program is in this manual.

### **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?

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.

### 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.

## HOSPITAL CODES

- CODE **BLUE** = Emergency (CPR)
- CODE **RED** = Fire
- CODE **PURPLE**= missing child
- CODE **PINK**=missing infant
- CODE **ORANGE**=Hazardous Waste
- CODE **GREEN**=Patient Elopement
- CODE **SILVER**= Person with a weapon
- CODE **GRAY**= Combative person
- CODE **TRIAGE**= disaster
- CODE **YELLOW**=Bomb threat
- CODE **WHITE**=Pediatric Emergency
- CODE **TAN**: (AVMC)= Non-patient fall
- **RRT**=Rapid Response Team
- **Additional CODES: Code Sepsis, Code MI, and Code Stroke**

### **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 absences.

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:

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

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.

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Student's Name (Please Print)

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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.

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PRINTED NAME

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DATE OF AGREEMENT

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SIGNATURE

### **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 fully 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.

**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. 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.

**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.

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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.

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Student's Name (please print)

Student's Signature/Date

## Antelope Valley College Registered Nursing Program

### Artificial Intelligence (AI) Use Policy

#### Purpose:

The purpose of this policy is to provide guidance on the ethical, responsible, and professional use of Artificial Intelligence (AI) tools within the Antelope Valley College (AVC) Registered Nursing Program. AI technologies (e.g., ChatGPT, Grammarly, Microsoft Copilot, etc.) can be valuable learning resources when used appropriately. However, improper use may compromise academic integrity, hinder the development of essential nursing competencies, or create unsafe clinical reasoning habits.

This policy applies to all academic, clinical, and lab-related activities within the nursing program.

#### Definition of Artificial Intelligence (AI):

AI refers to computer programs and applications that can generate or process human-like text, images, code, and data. This includes—but is not limited to—the following tools:

- **Generative AI:** ChatGPT, Claude, Copilot, etc.
- **Writing/Editing Tools:** Grammarly, etc.
- **Search & Study Helpers:** AI flashcard generators, auto-summarizers, AI notetaking bots
- **Clinical Decision Aids:** Diagnostic or drug-interaction AI assistants (not approved for academic assignments)

#### Policy Statement:

The use of AI tools must support—not replace—the student's independent learning, clinical reasoning, and personal accountability. All submitted work must reflect the student's original thinking, understanding, and synthesis of nursing knowledge, consistent with the ethical standards of the nursing profession.

#### Permitted Uses of AI (with faculty guidance):

AI may be used *only in ways that support academic success and do not replace the student's own work*. Examples of appropriate use include:

- Checking grammar, spelling, or sentence clarity (e.g., Grammarly)
- Formatting references or generating APA citations (e.g., Citation Machine)
- Generating practice questions for self-study (not submission)
- Summarizing or paraphrasing textbook readings for personal study
- Brainstorming or organizing outlines for assignments (with disclosure, if required)

**\*\*\*Use of AI in these ways does not guarantee accuracy. Students must verify all information against reliable, peer-reviewed, or instructor-approved sources.**

### **Prohibited Uses of AI (regardless of intent):**

AI **may not** be used to generate content that is submitted for academic credit, clinical evaluation, or as evidence of professional competency. The following uses are strictly prohibited:

- Submitting AI-generated essays, discussion posts, reflections, or Clinical Worksheets/care plans as original work
- Using AI to complete exam questions, quizzes, or online assessments
- Relying on AI to generate nursing diagnoses, interventions, evaluations, or therapeutic responses
- Fabricating or altering citations, references, or clinical data using AI
- Using AI to complete skills checklists, journaling, or patient documentation
- Using AI to mimic reflective thinking, empathy, or ethical reasoning

Any submission that includes AI-generated content without prior faculty approval may be considered academic dishonesty or plagiarism and will be reported.

### **Academic Integrity and Accountability:**

Nursing students are held to the highest standards of academic honesty and professional conduct. Violations of this AI policy fall under the AVC Academic Integrity Policy and may result in:

- A failing grade for the assignment or course
- Referral to the Dean of Student Services
- Disciplinary action up to and including dismissal from the program

Students are expected to disclose any use of AI on assignments when required. Faculty may utilize AI-detection tools (e.g., Turnitin) to evaluate submitted work

### **Faculty Authority and Course-Specific Expectations:**

Individual course instructors may:

- Prohibit or limit AI use on specific assignments
- Require students to submit an AI Use Disclosure Statement
- Provide additional AI-related guidelines in clinical, lab, or theory syllabi

Students are responsible for following each instructor's expectations and asking for clarification when in doubt.

**Professional Considerations:**

The nursing profession demands integrity, accountability, and sound clinical judgment. Overreliance on AI tools undermines the development of these competencies. While AI may become a tool in future healthcare environments, it cannot replace the nurse's critical thinking, ethical reasoning, or compassionate care.

As a student nurse, you are expected to build the knowledge, skills, and values necessary for safe, independent practice—free from reliance on automated content.

**Questions or Clarification:**

If you are uncertain whether your use of AI is appropriate, consult your course faculty or clinical instructor before using AI on any assignment.

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## **AI Use Acknowledgment and Disclosure Form**

### **Antelope Valley College Registered Nursing Program Artificial Intelligence (AI) Use Policy – Student Acknowledgment**

I, \_\_\_\_\_, acknowledge that I have read and understand the Artificial Intelligence (AI) Use Policy for the Antelope Valley College Registered Nursing Program.

I understand the following:

- AI tools (e.g., ChatGPT, Grammarly, Copilot) may only be used in ways that support my learning, not replace my original work.
- Submitting AI-generated content without permission is considered academic dishonesty and may lead to disciplinary action.
- It is my responsibility to ask faculty for clarification if I am unsure whether AI use is appropriate for a specific assignment.
- I understand that all submitted coursework, clinical documentation, and reflections must reflect my own thinking, knowledge, and skill.

I agree to comply with the AI Use Policy throughout the nursing program.

Student Name (Printed) \_\_\_\_\_

Student Signature \_\_\_\_\_

Date \_\_\_\_\_



**ASSOCIATE DEGREE NURSING PROGRAM**  
**Mandatory Resource Manual Receipt**

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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

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Print Name

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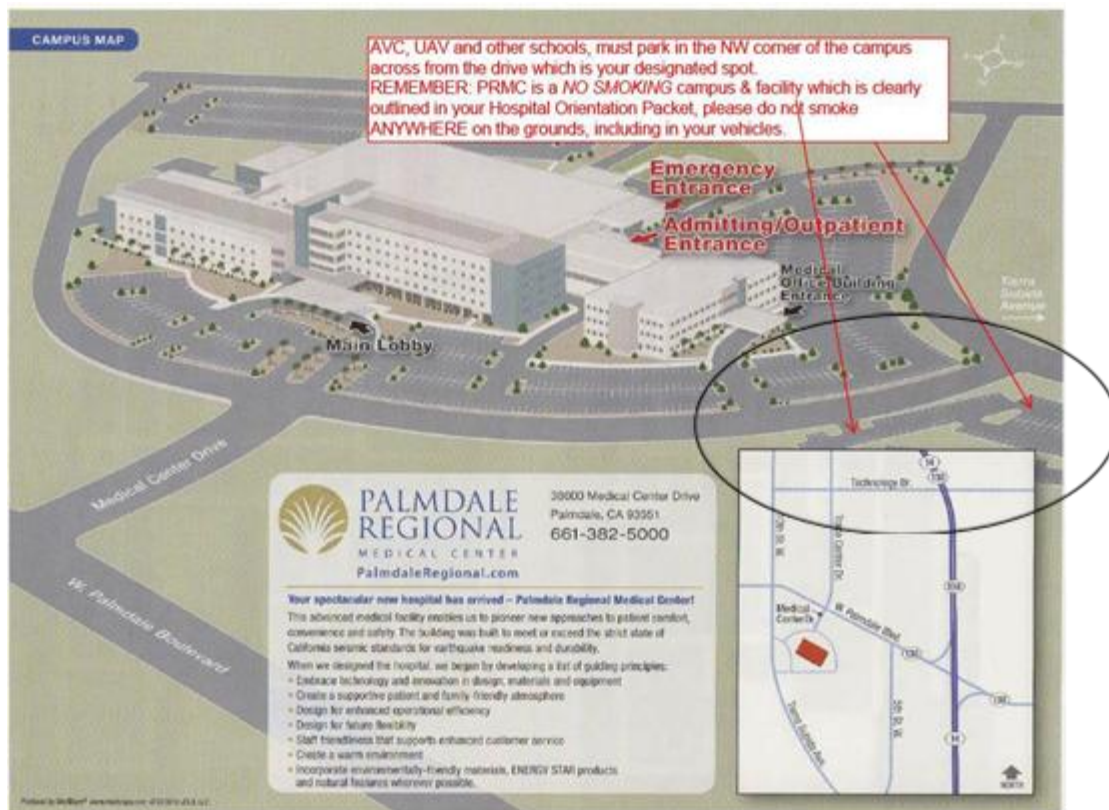
Signature/Date



AV Medical Center Parking



Palmdale Regional Medical Center Parking



**MODULE 3**

**NURSING PROCESS  
AND  
NURSING CARE PLANS**

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

### **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.

## **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.

### **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

### **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

**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

Antelope Valley College/ Clinical Worksheet

Date of Care: today

**Example CWS**

Student Name: Kim Smith

Date of Admission: yesterday

Client Initials / Age: MP / 47

Focus Diagnosis: Community acquired PNE,

empyema

Weight / BMI: 175/25.1 Code Status: Full

Planned Treatments/Procedures: Pleurodesis, CXR

**Pathophysiology:**

Community acquired pneumonia (CAP) occurs outside of a healthcare facility and can be either viral, fungal, or bacterial. The infection inflames the air sacs in one or both lungs and the air sacs may fill with fluid or pus. This can cause pain when breathing, phlegm-producing cough, fever, fatigue, and shortness of breath. Streptococcus pneumoniae is considered the most common cause but Haemophilus influenzae, Chlamydia pneumoniae, Mycoplasma pneumoniae, and Methicillin-resistant Staph. aureus (MRSA) are also possible other sources. Data indicates that MRSA CAP is on the rise due to the colonization of MRSA in the upper respiratory tract. Often the MRSA CAP produces a mild or virtually asymptomatic illness that is treated with oral antibiotics on an outpatient basis. When the respiratory system becomes compromised from other possible complications such as an empyema, the patient is hospitalized for further treatment, such as a chest tube to drain the collection of purulent material in the pleural space often followed by a pleurodesis once the empyema has been resolved to prevent recurrence. Of note, MP has strep pneumoniae.

Hoffman, J. & Sullivan, N. (2020). *Medical surgical nursing, making connections to practice* (2<sup>nd</sup>). Philadelphia: F.A. Davis Company.

\*\*\*Reference and cite resources, APA

Formatted.

**NURSING PLAN OF CARE RELATED TO FOCUS DIAGNOSIS****Demonstrate how client need was met through nursing care that was planned and/or delivered.**

(Must address (\*) if applicable)

Neurological/Cognition/Coping/Adaptation/Function: MP is aware that the pleurodesis is painful and is anxious regarding procedure. Encouraged MP that procedure is to prevent further issues with empyema that was drained w/ chest tube and reassured MP that he will have something ordered for pain. Encouraged MP to utilize some distraction therapy (music, TV, read-whatever he desires) to alleviate anxiety while waiting for procedure.

**Nutrition/Elimination:** MP is presently NPO prior to procedure. Monitoring accurate intake (IVF) and output. Assisted MP to restroom by holding on to chest tube container below chest wall so that he did not trip over cumbersome equipment and tubing. MP c/o constipation thus gave the prn stool softener after procedure when he was no longer NPO.

**Fluid/Electrolytes/Acid-Base:** Promoted intake of fluids after procedure, especially with the pain medication. Monitoring MP's electrolytes since his potassium level is marginally low and may need replacement. CO2 noted somewhat elevated on BMP this am, will encourage use of incentive spirometry and work with MP to achieve goals of 500mL or greater each hour.

**Gas Exchange/Perfusion:** Promoted IS each hour MP was awake and not hurting. Explained need to take full inspiration while maintaining blue gauge in steady position for best results. Instructed MP to notify RN or myself if becomes shorter of breath or to receive pain med when due, to achieve full inspiratory effort.

**Health Promotion/Development:** Gave MP educational material regarding CAP and follow up care with physician. Encouraged MP to sit up in chair at least twice in the shift to aid in full lung expansion. Provided MP with periods of rest especially after procedure to promote healing.

**Mobility:** Assisted MP to chair twice during shift. Applied skin barrier cream to coccyx area where there was some redness, but no breakdown. Assisted MP turning while in bed to avoid pulling on CT and provided pillows to support back.

**Pain/Comfort/Tissue Integrity:** Gave pain medication when indicated. Made sure that while in bed his heels were off-loaded to eliminate pressure. Checked dressing around chest tube to make sure skin not irritated by tape securing dressing.

**Safety:** MP is high fall risk, made sure he had his yellow skid resistant socks on when ambulating. Cleared floor of any clutter. Made sure his belongings were within reach when in bed.

**Cultural/Spiritual:** Asked MP about his support systems since he is not married. Encouraged MP to reach out to his friends at church or community center. Checked with Social Services to see if there are programs available for MP (Meals on Wheels, etc.).

\*Glucose Regulation: Fasting glucose from lab draw 112. No orders for accuchecks or sliding scale. Patient is not diabetic.

\*Infection/Immunity/Inflammation: Temp: 37 Degrees C, WBC 12.7 , Instructed MP to follow-through with antibiotic regime when leaving the hospital and not to stop just because he is feeling better. Made sure MP was caught up on all his vaccines, still needs the flu shot for this season, but did not want today with the procedure. MP also need to have PNE vaccine, encouraged him to check with his primary physician when best to acquire.

**INFORMATION BELOW IS SPECIFIC TO THE PATIENT:**

<p><b>Priority <i>Physical Assessments</i>’ to Establish Nursing Plan of Care &amp; Why</b></p>	<p><b>Priority Labs/Diagnostics &amp; Findings</b></p>	<p><b>Priority Medications - Actions &amp; Indications</b></p>
<p>1. Respiratory, necessary as resp status compromised with chest tube and dx of lung infection. Resp rate 22, lung sounds audible bilat, scattered rhonchi, diminished on left side and posterior with CT. CT drainage is purulent looking pus with some blood tinge approx. 250 mL present total. CT dressing dry and intact. SPO2 is 95% on 4L via n/c. MP has some phlegm with cough, light green in color. Uses IS when instructed and can pull 550 mL 10x. Some SOB on exertion when moving from bed to chair.</p> <p>2. Neurological, indicated as low oxygenation can compromise cognition and function. A&amp;O x4, answers questions appropriately, MAE (Moves all extremities) purposeful and strong for age, GCS is 15, PERRLA bilat 3mm brisk. No</p>	<p><i>Actual Values &amp; Results with Implications</i></p> <p>1. CT-needed to ID site of empyema for chest tube placement and treatment. Shows pocket of opaque consolidation in left lower pleural space.</p> <p>2. CXR PA and LAT-important to do CXR after CT placement to verify correct position and placement. Findings: CT in proper placement of suspected empyema.</p> <p>3. WBC-an elevated WBC indicates infection process. Finding: WBC is 16.4 on admission and 2 days later is 12.7, indicating the antibiotics are beginning to control the CAP. Normal range (4,200-10,200)</p>	<p><i>Drug action must correlate to priorities for patient management of care</i></p> <p>1. Azithromycin 500 mg IV daily. Binds to ribosomal subunit of susceptible microorganisms such as strep pneumonia, and blocks dissociation of peptidyl tRNA from ribosomes, causing RNA-dependent protein synthesis to arrest, is a Macrolide. Indication: Antibiotic to treat infection</p> <p>2. Piperacillin/tazobactam 3.375 g IVPB Q 6 hr.</p> <p>An antipseudomonal penicillin plus beta-lactamase inhibitor that inhibits biosynthesis of cell wall mucopeptide and effective during stage of</p>

<p>difficulty swallowing, speech clear. No deficits noted.</p> <p>3. Integumentary, indicated as mobility hindered by pain, chest tube. Excoriation on coccyx area, but no breakdown. CT dressing dry/intact no breakdown and area free of any drainage. Skin tents have blanching in all bony prominent areas; heels are not reddened and no c/o pain on heels.</p>		<p>active multiplication, given for empyema.</p> <p>Indication: Antibiotic to treat infection</p> <p>3. Methylprednisolone 40 mg Q 12 hr.</p> <p>Potent glucocorticoid that controls or prevents inflammation by controlling rate of protein synthesis, suppressing migration of polymorphonuclear leukocytes and fibroblasts, reversing capillary permeability and stabilizes lysosomes at cellular level.</p> <p>Indication: To reduce inflammation in the lungs.</p>
<p><b>Priority Complications, related to</b></p> <p><i>Actual and Potential, listed as a nursing diagnosis.</i></p> <p>1. <b>Actual:</b> Alteration in effective breathing pattern R/T chest tube insertion as evidenced by increased resp rate.</p> <p>2. <b>Actual:</b> Alteration in gas exchange R/T Community-Acquired Pneumonia with strep pneumonia as evidenced by decreased SPO2.</p> <p>3. <b>Potential:</b> At risk for skin breakdown related to decreased mobility.</p>	<p><b>Priority Active Independent Nursing Interventions</b></p> <p>Who, what, when, and how</p> <p>1. The nurse will assist the client to chair twice during shift to increase mobility and enhance resp status starting on 4/22/24 by 1200H.</p> <p>2. The nurse will reposition the client every 2 hours to promote skin integrity and pulmonary toilet on 4/22/24 and by 1800H.</p> <p>3. The nurse will stay with the client during the pleurodesis to provide comfort and support on 4/22/24 and at 0900.</p>	<p><b>Priority Collaborative Goals</b></p> <p><i>Who is Involved from healthcare team (3 different HCT (Healthcare team) members), Must be measurable?</i></p> <p>1. By 1600H on 4/22/24, the nurse will collaborate with Social Services to inquire about potential services such as Meals on Wheels so the client will have 3 meals a day after discharge.</p> <p>2. On 4/22/24 by 0800H, the nurse will collaborate with the primary care physician regarding procedure for pleurodesis. The client will</p>

		<p>have normal respirations of 12-20 and normal SBP of 90-120 to be able to safely have pleurodesis procedure.</p> <p>3. The nurse will collaborate with Respiratory Therapy to maintain SPO2 &gt;94% to maintain SPO2 &gt;94% by 1800 on 4/22/24</p>
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### **PURPOSEFUL CLINICAL JUDGMENT**

#### **Answer these questions about your client:**

1. **Recognize Cues** - *Explain the assessment changes during your care of the client.* During the morning baseline assessment, the client's O2 92%; the client had scattered rhonchi through-out and resp rate 24 per minute.
2. **Analyze Cues** - *How are the changes important or significant?* Orders are to keep O2 above 94% and the importance of adequate oxygenation assists adequate perfusions for all organs.
3. **Prioritize Hypothesis** - *What could be causing the changes?* The client is having pain on inspiration, as well as anxiety about the procedure-- both could hinder adequate oxygenation.
4. **Generate Solutions** - *What can/should you do about these changes?* 1) Provide pain medication when due. 2) Discuss with the client regarding the procedure and concerns. 3) Encourage use of Incentive Spirometer properly using to maximize oxygenation. 4) Offer to accompany client to procedure for support/comfort.
5. **Take Action** - *What did you do about it?* Medicated with pain medication when appropriate and actually talked with primary RN for MP to see if pain med was adequate. Worked with MP on IS technique and went with him to the procedure.
6. **Teaching** - *What teaching opportunities were offered to the client?* Importance of using IS properly for lung expansion and making sure pain medication on board so that he will be able to take fuller breaths, use of distraction techniques during periods of stress.
7. **Evaluate Outcomes** - *Did my actions make a difference? Why or why not? What should have been done differently?* After proper usage of IS, pt encouraged. Although he had a lot of pain during the procedure, stated he was glad that I came with him and that I was a big help just to be able to hold his hand during the procedure. My actions did make a difference in that some anxiety was relieved and using the IS every hour improved his oxygenation ability and production of phlegm.

**Antelope Valley College/ Clinical Worksheet**

Date of Care:

Student Name:

Date of Admission:

Client Initials / Age:

Focus Diagnosis:

Allergies:

Comorbidities:

Weight / BMI:

Code Status:

Planned Treatments/Procedures:

**Pathophysiology:****NURSING PLAN OF CARE RELATED TO FOCUS DIAGNOSIS****Demonstrate how client need was met through nursing care that was planned and/or delivered.**

(Must address (\*) if applicable)

Neurological/Cognition/Coping/Adaptation/Function:

Nutrition/Elimination:

Fluid/Electrolytes/Acid-Base:

Gas Exchange/Perfusion:

Health Promotion/Development:

Mobility:

Pain/Comfort/Tissue Integrity:

Safety:

Cultural/Spiritual:

\*Glucose Regulation:

\*Infection/Immunity/Inflammation:

\*\*\*Reference and cite resources, APA Formatted.

**INFORMATION BELOW IS SPECIFIC TO THE PATIENT:**

<b>Priority Physical Assessments to Establish Nursing Plan of Care &amp; Why</b>  1. 2. 3.	<b>Priority Labs/Diagnostics &amp; Findings</b> <i>Actual Values &amp; Results with Implications</i>  1. 2. 3.	<b>Priority Medications - Actions &amp; Indications</b> <i>Drug action must correlate to priorities for patient management of care</i>  1. 2. 3.
<b>Priority Complications, related to</b> <i>Actual and Potential, listed as a nursing diagnosis</i>  1. 2. 3.	<b>Priority Active Independent Nursing Interventions</b>  1. 2. 3.	<b>Priority Collaborative Goals</b> <i>Who is Involved from healthcare team (3 different HCT members), Must be measurable</i>  1. Pt Goal: Collaborate with: How to measure: 2. Pt Goal: Collaborate with: How to measure: 3. Pt Goal: Collaborate with: How to measure:

**PURPOSEFUL CLINICAL JUDGMENT**

Answer these questions about your client:

1. **Recognize Cues** - Explain the assessment changes during your care of the client.
2. **Analyze Cues** - How are the changes important or significant?
3. **Prioritize Hypothesis** - What could be causing the changes?
4. **Generate Solutions** - What can/should you do about these changes?
5. **Take Action** - What did you do about it?
6. **Teaching** - What teaching opportunities were offered to the client?
7. **Evaluate Outcomes** - Did my actions make a difference? Why or why not? What should have been done differently?



**CLINICAL APPLICATION WORKSHEET RUBRIC**      Name \_\_\_\_\_

Criteria	Excellent	Satisfactory	Average	Unsatisfactory
<b>EKG (Med Surg only)</b>		<ul style="list-style-type: none"> <li>● Submits EKG with Clinical Worksheet</li> </ul>		<ul style="list-style-type: none"> <li>● Submits EKG, but with wrong interpretation +/- or incorrect PRI, QRS, QT measurements. -0.5</li> </ul> Pts <ul style="list-style-type: none"> <li>● Does not submit EKG with Clinical Worksheet -1</li> </ul> Pt
<b>All sections complete</b>		<ul style="list-style-type: none"> <li>● Complete all sections</li> </ul>		<ul style="list-style-type: none"> <li>● Not all sections are complete. -1 Pt</li> <li>● Grammar or spelling is incorrect in any section -</li> </ul> 0.2 Pt
<b>Pathophysiology</b>	<ul style="list-style-type: none"> <li>● Identifies pathophysiology of Focus Diagnosis</li> <li>● Utilizes lecture/classroom information.</li> <li>● Lists reference information-proper APA format</li> <li>● Has 6 sentences minimum.</li> </ul> 0.6 Pts.	<ul style="list-style-type: none"> <li>● Identifies pathophysiology of Focus Diagnosis</li> <li>● Utilizes lecture/classroom information.</li> <li>● Lists reference information-proper APA format</li> <li>● Less than 5 sentences</li> </ul> 0.4 Pts.	<ul style="list-style-type: none"> <li>● Identifies pathophysiology of Focus Diagnosis</li> <li>● Lists reference information-proper APA format</li> <li>● 3 sentences or less</li> </ul> 0.2 Pts	<ul style="list-style-type: none"> <li>● Does not use lecture/classroom information.</li> <li>● Does not list reference information or use APA formatting.</li> </ul> 0 Pts.
<b>Nursing Plan of Care Related to Focused Diagnosis</b>	<b>For each of the sections, include the following:</b> <ul style="list-style-type: none"> <li>● Each area has 3 sentences, demonstrating how client need</li> </ul>	<b>For each of the sections, include the following:</b> <ul style="list-style-type: none"> <li>● Each area has 2 sentences demonstrating how client need was met through nursing care</li> </ul>	<b>For each of the sections, include the following:</b> <ul style="list-style-type: none"> <li>● Each area has 1 sentence demonstrating how client need was met through nursing care</li> </ul>	<b>For each of the areas, include the following:</b> <ul style="list-style-type: none"> <li>● Not all areas complete.</li> <li>● Information does not</li> </ul>

	<p>was met through nursing care that was planned and/or delivered.</p> <p>3.3 Pts.</p>	<p>that was planned and/or delivered.</p> <p>2.2 Pts.</p>	<p>that was planned and/or delivered.</p> <ul style="list-style-type: none"> <li>Missing significant plan of care data - specific to focused diagnosis</li> </ul> <p>1.1 Pts</p>	<p>correlate with focused diagnosis.</p> <p>0 Pts.</p>
<p><b>Priority Assessments- Physical Assessments- MS Psychosocial- OB or Psych</b></p>	<ul style="list-style-type: none"> <li>Lists 3 priority assessments (<b>physical</b> for MS, <b>psychosocial</b> for OB, Psych) for stated problem/concept <b>with rationale.</b></li> <li>Includes patient assessment data.</li> </ul> <p>0.9 Pts.</p>	<ul style="list-style-type: none"> <li>Lists 3 assessments for stated problem/concept with rationale.</li> <li>At least 1 assessment is not a priority.</li> <li>Missing pertinent patient assessment data.</li> </ul> <p>0.6 Pts.</p>	<ul style="list-style-type: none"> <li>Lists 3 assessments for stated problem/concept with NO rationale.</li> <li>Missing pertinent patient assessment data</li> </ul> <p>0.3 Pts</p>	<ul style="list-style-type: none"> <li>Does not include 3 assessments .</li> <li>Does not include patient assessment data.</li> <li>Assessments do not correlate with focused diagnosis</li> </ul> <p>0 Pts.</p>
<p><b>Priority Labs and Diagnostics</b></p>	<ul style="list-style-type: none"> <li>Lists 3 priority lab/diagnostic tests.</li> <li>Includes actual patient lab values and implications for condition for all 3 tests.</li> </ul> <p>0.9 Pts.</p>	<ul style="list-style-type: none"> <li>Lists 3 lab/diagnostic tests.</li> <li>At least 1 test is not a priority.</li> <li>Includes actual patient lab values and implications for condition for at least 1 test.</li> <li>Includes irrelevant / extraneous data.</li> </ul> <p>0.6 Pts.</p>	<ul style="list-style-type: none"> <li>Lists 3 lab/diagnostic tests.</li> <li>Excludes implications / how relevant to focused diagnosis</li> </ul> <p>0.3 Pts</p>	<ul style="list-style-type: none"> <li>Lists less than 3 priority lab/diagnostic tests.</li> <li>Lab/diagnostic test does not relate to problem/concept or actual values not listed with implication.</li> <li>Lists labs not pertinent to diagnosis.</li> </ul> <p>0 Pts.</p>
<p><b>Priority Medications with Actions and Indications</b></p>	<ul style="list-style-type: none"> <li>Lists 3 priority medications and mechanism or action for stated problem.</li> <li>Medications include rationale/indication for client receiving medication.</li> </ul>	<ul style="list-style-type: none"> <li>Lists 3 medications and mechanism of action for stated problem.</li> <li>At least 1 medication is not a priority.</li> <li>Includes rationale/indication for client receiving medication.</li> </ul> <p>0.6 Pts.</p>	<ul style="list-style-type: none"> <li>Lists &lt;3 medications and mechanism of action for stated problem / or</li> <li>Missing rationale or gives "type" of med instead of mechanism of action</li> </ul> <p>0.3 Pts</p>	<ul style="list-style-type: none"> <li>Lists less than 3 priority medications or missing mechanism of action.</li> <li>Medications are not a priority.</li> <li>Does not include rationale/indication for</li> </ul>

	0.9 Pts.			client receiving medication. 0 Pt.
<b>Priority Potential &amp; Actual Complications</b>	<ul style="list-style-type: none"> <li>Lists 3 priority complications and states how the complication is related to the patient problem/focused dx.</li> <li>2 Actual, 1 Potential</li> <li>Labels each complication with actual or potential.</li> </ul> <p>0.9 Pts.</p>	<ul style="list-style-type: none"> <li>Lists 3 complications and states how the complication is related to the patient problem/concept.</li> <li>At least 1 does not relate to the patient problem/focused diagnosis</li> <li>2 Actual, 1 Potential</li> <li>Labels each complication with actual or potential.</li> </ul> <p>0.6 Pts.</p>		<ul style="list-style-type: none"> <li>Lists less than 3 priority complications and what the complication is related to.</li> <li>Does not label each complication with actual or potential.</li> </ul> <p>0 Pts.</p>
<b>Priority Active Nursing Interventions</b>	<ul style="list-style-type: none"> <li>Identify 3 active priority nursing interventions for stated problem/concept.</li> <li>Includes time-frame</li> </ul> <p>0.9 Pts.</p>	<ul style="list-style-type: none"> <li>Identify 3 active nursing interventions for stated problem/concept.</li> <li>At least 1 is not a nursing intervention or is an assessment.</li> </ul> <p>0.6 Pts.</p>	<ul style="list-style-type: none"> <li>Identify 3 active nursing interventions for stated problem/concept.</li> <li>Does not include time-frame for intervention</li> </ul> <p>0.3 Pts</p>	<ul style="list-style-type: none"> <li>Lists less than 3 active priority nursing interventions for stated problem/concept.</li> <li>States assess or monitor</li> <li>Uses "teaching" more than once (with exception of OB)</li> </ul> <p>0 Pts.</p>
<b>Priority Collaborative Goals</b>	<ul style="list-style-type: none"> <li>Lists 3 collaborative goals and who is involved in each goal.</li> <li>Each goal is measurable with date &amp; time of anticipated completion.</li> <li>Goal is patient oriented</li> </ul> <p>0.9 Pts.</p>	<ul style="list-style-type: none"> <li>Lists 3 collaborative goals and who is involved in each goal.</li> <li>At least 1 does not include another discipline to collaborate with.</li> </ul> <p>0.6 Pts.</p>	<ul style="list-style-type: none"> <li>Lists 3 collaborative goals and who is involved in each goal.</li> <li>At least one goal is not measurable.</li> <li>Goals are RN oriented, not pt oriented</li> </ul> <p>0.3 Pts.</p>	<ul style="list-style-type: none"> <li>Lists less than 3 collaborative goals.</li> <li>Does not list who is involved in each goal.</li> <li>Two or more Goals are not measurable.</li> </ul> <p>0 Pts.</p>

<b>Purposeful Clinical Judgment</b>	<ul style="list-style-type: none"> <li>• Each question worth 0.1 pt</li> <li>• Complete sentences for each area.</li> <li>• Clinical judgment as related to focused diagnosis.</li> </ul> <p style="text-align: right;">0.7 Pts.</p>	<ul style="list-style-type: none"> <li>• Not all 7 questions were answered.</li> <li>• Clinical judgment is not related to focused diagnosis.</li> </ul> <p style="text-align: right;">0.4 Pt.</p>		<ul style="list-style-type: none"> <li>• Incomplete sentences / bullet points used.</li> <li>• No clinical judgment used.</li> </ul> <p style="text-align: right;">0 Pts.</p>
	<b>Total ____/10</b>			

*“How To”*

**Antelope Valley College/ Clinical Worksheet** Date of Care:

Student Name: Date of Admission:

Client Initials / Age: Focus Diagnosis:

Allergies: Comorbidities:

Weight / BMI: Code Status: Planned Treatments/Procedures:

**Pathophysiology:**

Should include 6 sentences minimum

Proper APA formatting (if necessary w/in the body of the pathophys)

\*\*\*Reference and cite resources, APA Formatted

**NURSING PLAN OF CARE RELATED TO FOCUS DIAGNOSIS**

**Demonstrate how client need was met through nursing care that was planned and/or delivered.**

- What care did you give to your patient relating to the focus diagnosis, address each area. 3 sentences each
- Must reflect the Focus Diagnosis

(Must address (\*) if applicable)

- Neurological/Cognition/Coping/Adaptation/Function:
- Nutrition/Elimination:
- Fluid/Electrolytes/Acid-Base:
- Gas Exchange/Perfusion:
- Health Promotion/Development:
- Note: This is not a repeat of your assessment, but
- What you did for the pt based on the assessment as relates to the focused dx.
- Mobility:
- Pain/Comfort/Tissue Integrity:
- Safety:
- \*Cultural/Spiritual:
- \*Glucose Regulation:
- \*Infection/Immunity/Inflammation:

**INFORMATION BELOW IS SPECIFIC TO THE PATIENT:**

<p><b>Priority Physical Assessments to Establish Nursing Plan of Care &amp; Why</b></p> <p>(note: physical assessment for MS, psychosocial for OB, Psych)</p> <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>What was <u>your</u> assessment? Include pt data and rationale for assessment</i></p> </div>	<p><b>Priority Labs/Diagnostics &amp; Findings Actual Values &amp; Results with Implications</b></p> <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Be sure to include what the lab or result means, why important.</i></p> <p><i>DO NOT incl all labs</i></p> </div>	<p><b>Priority Medications - Actions &amp; Indications</b></p> <p><i>Drug action must correlate to priorities for patient management of care</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Must relate to focused diagnosis, be sure to note indication for <b>and</b> mech of action, not drug type. No</i></p> </div> <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>
<p><b>Priority Complications, related to</b></p> <p><i>Actual and Potential, listed as a nursing diagnosis</i></p> <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>NANDA relate to _____</i></p> <p><i>Evidenced by _____</i></p> <p><i>State actual/potential</i></p> <p><i>2 actual, 1 potential</i></p> </div>	<p><b>Priority Active Independent Nursing Interventions</b></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Independent nursing <u>action</u>, not assess or monitor</i></p> <p><i>Relates to what RN is doing for pt. What would/did you do? In what time frame?</i></p> </div> <ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>	<p><b>Priority Collaborative Goals</b></p> <p><i>Who is Involved from healthcare team (3 different HCT (Healthcare Team members), Must be measurable</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>You are the RN, not SN. who are you collaborating with? (Dietician, MD, RT, PT, OT, ST, Dialysis, Pharm, Case management, OR cath lab, etc. Family not HCT member</i></p> </div> <ol style="list-style-type: none"> <li>1.</li> </ol>

		2.
		3.

**PURPOSEFUL CLINICAL JUDGMENT**

**Answer these questions about your client:**

- 1. Recognize Cues** - *Explain the assessment changes during your care of the client.*
- 2. Analyze Cues** - *How are the changes important or significant?*
- 3. Prioritize Hypothesis** - *What could be causing the changes?*
- 4. Generate Solutions** - *What can/should you do about these changes?*
- 5. Take Action** - *What did you do about it?*
- 6. Teaching** - *What teaching opportunities were offered to the client?*
- 7. Evaluate Outcomes** - *Did my actions make a difference? Why or why not? What should have been done differently?*

Evaluate your care of your patient, answer the questions as it relates to focused diagnosis and utilize clinical judgment.

**MINI CARE PLAN**

**Student:**                      **Date:**                      **Gender:**                      **Room Number:**  
**Patient's Initials:**        **Age:**                      **Chief Complaint:**  
**Medical Diagnosis:**

<b>Deficiency (Problem)</b>	
<b>Focused Assessment Supporting the Deficiency (Problem)</b> Subjective and Objective Data	
<b>Nursing Diagnosis</b> NANDA: R/T	
<b>Goal</b> Short Term and Measurable	
<b>Nursing Interventions</b>  3 nursing actions  Who/What/How/When	<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> <li>3.</li> </ol>
<b>Evaluation</b> Of the Goal	

**Student:** Your Name    **Date:** Date of care

**Patient's Initials:** first/last    **Age:** Please    **Sex:** Please    **Room Number:** Please    **Chief**

**Complaint:** why did they show up at the hospital, not the dx, you just might have to ask the patient why they came in

**Medical Diagnosis:** what does the MD say is wrong, not the admitting clerk, look in the H/P for this, if not there look in the progress notes.

<p><b>Focused Assessment Supporting the Deficit</b> Subjective &amp; Objective Data</p>	<p>This area should contain all the information you collected regarding the identified problem with your patient that day. It can be a long term problem or just something that occurred that day. Should include physical findings, labs, studies, medications appropriate to the problem and why, and subjective findings.</p>
<p><b>Priority Self-Care Deficit</b> Unable or Unwilling</p>	<p><b>Unable/Unwilling:</b> Needs to be important, use the Maslow framework as a guide, however, don't keep using the same issue every day.</p>
<p><b>Priority Nursing Diagnosis</b> Nanda: r/t _____</p>	<p>The dx should address the deficit. It should clearly define the deficit and the R/T piece should state what is causing the deficit in physiological terms, not a medical diagnosis</p>
<p><b>Goal</b> Short Term &amp; Measurable</p>	<p><b>The patient will:</b> you need to state in clear and objective terms the resolution of the self-care deficit/nursing dx in what action or result the patient/caregiver will demonstrate or experience.</p>
<p><b>Nursing Interventions</b> 3 nursing actions Who/What/How/When</p>	<ol style="list-style-type: none"> <li>1. Who is going to initiate the intervention, what is the action to be taken, how will this action be accomplished, and when in the day will the action take place. Be very specific.</li> <li>2. Should be something the nurse can do on their own without an order or use of personnel from other departments.</li> <li>3. The nurse will....</li> </ol>
<p><b>Evaluation</b> Of the Goal</p>	<p>Was the goal met, partially met, or not met, one of those statements should start the sentence, then restate the goal in past tense terms and what went wrong if something did.</p>



## Mini Care Rubric

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

## **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 Eliminative 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, pruritus, 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, 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

## 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?
  
9. Oppressive living conditions -
  - a) How do they affect the 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/Peri care 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  
pink

**DO USE**

Temperature less than 99°

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



**CAUTION: You must state goals according to the AVC nursing program criteria.**

**PURPOSES OF NURSING CARE PLANS/CLINICAL WORKSHEETS**

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 pathophysiology to a patient case. Includes patient data and prescribed nursing actions. Also uses QSEN and principles of 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."**

**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, if 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 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. [studenthealth@avc.edu](mailto:studenthealth@avc.edu)
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 apps 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.

1. 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 distractor. For example:

1. Diuretic drug effect.
2. ~~Improved renal flow.~~
3. ~~Increased cardiac output.~~
4. 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 distractor and cross it out too, then select as the correct answer, the option she has decided is not a distractor. 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 & 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.

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.

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.

1. 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.**

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

(b, c, d, e)

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

2. 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  
and NEX GEN**

**PART 1: STRATEGIES TO USE DURING THE TEST**1) Read the Question Carefully

a) Keys in the question:

- i) Who?
- ii) What?
- iii) When?
- iv) 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?

1. Monitor vital signs every hour until stable.
2. Encourage coughing and deep breathing every two hours.
3. Apply anti-embolism stockings.
4. 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?

1. Monitor vital signs every hour until stable.
2. Encourage coughing and deep breathing every two hours.
3. Apply anti-embolism stockings.
4. Administer pain medications as ordered.

*Who? What? When? What for?*

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?

1. "My wife will need extra rest for a while when she comes home from the hospital."
2. "I will do the grocery shopping for two weeks after she comes home from the hospital."
3. "I will call the doctor if there is a lot of bleeding."
4. "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?

1. All hospitalized persons should have passive range of motion exercises performed.
2. Active range of motion exercises should not be performed by persons who have had joint replacement surgery.
3. Range of motion exercises are usually appropriate for immobilized patients.
4. 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?

1. Blood loss is always present.
2. Respirations will decrease.
3. Blood pressure rises.
4. Respirations may increase.

*Who? What? When? What for?*

Question #6

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

1. Hypertension.
2. Elevated blood pressure.
3. Orthostatic hypotension.
4. Increased vital signs.

*Who? What? When? What for?*

Question #7

Before taking vital signs, the nurse must:

1. Count the pulse for 30 seconds and multiply by 2.
2. Count respirations for one full minute.

3. Pump the blood pressure cuff higher than the patient's usual systolic pressure.
4. 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?

1. Spinach.
2. Broccoli.
3. Collard greens.
4. Yogurt.

*Who? What? When? What for?*

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:

1. Are frequently tired.
2. Have had little chance to learn to deal with frustrations.
3. Have usually been "spoiled" by their families.
4. Are emotionally immature.

*Who? What? When? What for?*



## Next-Gen Primer

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### How many questions are on the NCLEX®?

The 2023 NCLEX now consists of 70-135 questions. In a minimum-length exam, there will be 70 scored items and 15 unscored items. Previously, the exam ranged from 60-130 questions.

In a minimum-length exam, examinees can expect 52 stand-alone questions and three case studies, each containing six questions, totaling 18 questions.

Design Specification	Next Generation NCLEX (NGN)
Time Allowed	5 hours
Delivery Method	Variable-length CAT*
Pass/Fail Decision Rules	CI, ROOT, Max Items
<b>Total Exam Length (min-max)</b>	<b>85-150</b>
NCJMM Case Studies	3 (18 items)
Stand-alone Items	52-117**
<b>Total Scored Items (min-max)</b>	<b>70-135</b>
Unscored (Pretest) Items	15

\* Items within a Case Study are static, not adaptive

\*\* Range possible due to variable length CAT

### What is the question format for the Next Generation NCLEX (NGN)?

{See Appendix Below for examples of each of these}

The new NCLEX NGN question types are:

- **Extended multiple response (Select N, Multiple Response Grouping, SATA):** These are a part of the Clinical Judgment Measurement Model (NCJMM) which measures your decision-making abilities and clinical judgment skills. Essentially, they're just questions with multiple possible answers.
- **Bow tie:** Bow tie questions are also a part of the NCJMM. Examinees will read a clinical case and drag and drop their choices in a key shaped like a bow tie.
- **Drop-down (Cloze, Rationale, or In-Table):** Drop-down questions will allow you to pick from a list of answers to complete the passage. There will be multiple possible answers. There are also drop-down tables and rationale items!
- **Highlight|Enhanced Hot Spot (Within Text or Table):** It's exactly what you think—read a passage or sentence and highlight the answer.

- **Extended drag-and-drop (Cloze or Rationale):** Answers will be some or all of the options; drag-and-drop your answers in the box.
- **Matrix/Grid (Multiple Response/SATA or Multiple Choice) :** Pick one or more options in one column or row.
- **Trend (includes all question types except Bow-Tie):** You'll be presented with a client case for trend questions. They ask you to review and track the client's needs, nursing interventions, and other healthcare orders over the course of a few questions.

The standard NCLEX questions are:

- **Fill in the blank**
- **Multiple choice**
- **Select all that apply (SATA)**

**Overview of Item Types on NGN Organized by Response Type Grouping**

All current NCLEX item types plus:

<p><b>Extended Multiple Response:</b></p> <ul style="list-style-type: none"> <li>■ Select All That Apply</li> <li>■ Select N</li> <li>■ Multiple Response Grouping</li> </ul>	<p><b>Drag-and-Drop:</b></p> <ul style="list-style-type: none"> <li>■ Cloze</li> <li>■ Rationale</li> </ul>	<p><b>Highlight:</b></p> <ul style="list-style-type: none"> <li>■ In Text</li> <li>■ In Table</li> </ul>
<p><b>Matrix/Grid:</b></p> <ul style="list-style-type: none"> <li>■ Multiple Response</li> <li>■ Multiple Choice</li> </ul>	<p><b>Drop Down</b></p> <ul style="list-style-type: none"> <li>■ Cloze</li> <li>■ Rationale</li> <li>■ In Table</li> </ul>	<p><b>Bowtie</b></p> <hr/> <p><b>Trend:</b></p> <ul style="list-style-type: none"> <li>■ Can contain ALL new item types except Bowtie</li> </ul>

**How many questions do you have to get right to pass the NCLEX?**

The exam duration of 5 hours remains unchanged, but the NCLEX now features computer-adaptive questions, causing the number of questions to vary for each individual.

The minimum exam consists of 85 questions, including 15 practice questions. In total, examinees will answer at least 70 scored questions, with the possibility of up to 135 scored questions. You will continue to receive questions until the computer is 95% confident that you have either passed or failed the exam.

**How are NGN questions scored?**

Next-gen NCLEX questions are scored using three different rules: rationale scoring, +/- scoring, and 0/1 scoring.

- **0/1 scoring:** This rule is applied to questions where you need to select a specific number of answers. You receive one point for each correct response and zero points for incorrect responses.

◆ The patient is transferred to the nurse from Emergency Medical Services. The nurse has reviewed the patient's history and physical and has performed a nursing head-to-toe assessment. The nurse knows that the patient's diagnosis is ischemic stroke and is preparing for future orders that will be received.

In regards to future orders for this patient, click to specify if each order would be appropriate or inappropriate for this patient's situation.

Possible Order	Appropriate	Inappropriate	
Lumbar Puncture	<input type="radio"/>	<input checked="" type="radio"/>	1 point
Complete Blood Count	<input checked="" type="radio"/>	<input type="radio"/>	1 point
Nasogastric Tube Insertion	<input type="radio"/>	<input checked="" type="radio"/>	1 point
tPA Administration	<input checked="" type="radio"/>	<input type="radio"/>	0 points
CT Scan	<input checked="" type="radio"/>	<input type="radio"/>	1 point
Echocardiogram	<input checked="" type="radio"/>	<input type="radio"/>	1 point
INR Level	<input checked="" type="radio"/>	<input type="radio"/>	1 point
Glucose Level	<input type="radio"/>	<input checked="" type="radio"/>	0 points

6 points total

**0/1 scoring** means you earn a point for each correct answer selected, and zero points when you select an incorrect option. The points are then added together for a total question score.

This scoring type is used on questions such as multiple choice, matrix multiple choice, multiple response where you select a specified number of answers (select N), drop-down cloze, drop-down table, and bowtie questions.

- **+/- scoring:** This rule is used for select-all-that-apply questions. You earn points for each correct selection and lose points for each incorrect selection. The maximum score equals the number of correct answers, while the minimum score is zero points for no correct answers.

◆ The nurse receives an order to prepare for the administration of tPA (tissue plasminogen activator). Which of the following findings would exclude this patient from receiving this medication? Select all that apply.

- Diagnosis of ischemia stroke
- Blood pressure 210/116
- Onset of symptoms presented 8 hours ago
- Negative CT scan of the head form hemorrhage
- Blood glucose level 120 mg/dL
- Warfarin usage with INR 2

3 points correct  
- 1 point incorrect  
= 2 points total

**+/- scoring** means that you can earn a point when you select a correct answer, but lose a point when you select an incorrect option.

This method is used with select all that apply multiple response questions, matrix multiple response, and MR grouping questions.

Zero is the lowest score you can receive on a question (no negative score).

- **Rationale scoring:** This rule assesses cause-and-effect relationships and is divided into triad and dyad scoring. In dyad scoring, both the cause (x) and effect (y) must be correct to earn one point. In triad scoring, you earn one point for each correct answer, and if all three are correct, you earn a total of two points.

◆ Complete the sentence below by choosing from the lists of options.

The patient is not a candidate for tPA at this time because of  as evidenced by

blood glucose 120 mg/dL  
 blood pressure 210/116  
 speech impairment

history of diabetes  
 hypertension  
 aphasia

(NOTE: Both options must be selected correctly to earn 1 point. If either (or both) options are incorrect, 0 points will be awarded.)

## Scoring rules apply to all 15 question types

<b>0/1</b> (Choose N)	<b>+/-</b> (Relevant vs Irrelevant)	<b>Rationale</b> (Justification)
Multiple Choice Matrix Multiple Choice Multiple Response Select N (SATA-N) Drop-Down Cloze/Table Highlight Text/Table Select N (SATA-N) Bowtie	Multiple Response (SATA) Matrix Multiple Response Multiple Response Grouping Highlight Text/Table (SATA) Extended Drag-and-Drop	Drop-Down Cloze Dyad/Triad Drag-and-Drop Cloze Dyad/Triad

### References

- 2023 Test Plan from boards: [https://www.ncsbn.org/public-files/NGN\\_Winter22\\_English\\_Final.pdf](https://www.ncsbn.org/public-files/NGN_Winter22_English_Final.pdf)
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## Appendix - Next Gen NCLEX (NGN) Samples, Examples, & Templates

The standard NCLEX questions are:

- **Fill in the blank** - Fill in one blank from a given stem. Scored as correct/incorrect.
- **Multiple choice** – Select from 4+ possible responses. Only 1 option is correct. Scored as all/nothing, pass/fail
- **Select all that apply (SATA)** - Select from 1 to 5 (All) options as true/false. Scored as all or nothing (correct/incorrect)
- **Ordering** - Put a list of items in order (phased out)
- **Drag/Drop** - Now more advanced. (phased out)
- **HotSpot** - Select somewhere on the image the correct answer (phased out for Highlight NGNs)

NGN questions use the above and have new ones as illustrated below:

### ● **Extended multiple response:**



- **Extended SATA** - SATA from a list of 5 to 10 options, scored as +/- (correct options score 1 point each, and incorrect answers subtract 1 point from total score for question - cannot score less than 0 points overall!)

The nurse is providing care to a 60-year-old male. The patient arrived to the Emergency Room with a sudden onset of weakness and numbness on the right side of the body. Below is the patient's electronic health record. Use the information in this record to answer the questions in this case study.

Health History	Nurses' Notes	Vital Signs	Laboratory Results
<p>The patient and his spouse were walking their dog around the neighborhood at 0945. The spouse states around 1000 during the walk the patient suddenly started to report a headache and dizziness along with slurred speech. Then right-sided hemiplegia and confused developed. The spouse called 911. The patient arrived to the ER at 1045. The patient is alert and presents with right-sided facial drooping with dysarthria, mild aphasia, no vision changes, and right-sided hemiplegia. NIHSS score is 16. Health history includes hypertension, smoker for 30 years, hyperlipidemia, diabetes Type 2, no head trauma or recent surgeries, and BMI 32.</p>			

✦ The nurse receives an order to prepare for the administration of tPA (tissue plasminogen activator). Which of the following findings would exclude this patient from receiving this medication? Select all that apply.

- Diagnosis of ischemia stroke
- Blood pressure 210/116
- Onset of symptoms presented 8 hours ago
- Negative CT scan of the head form hemorrhage
- Blood glucose level 120 mg/dL
- Warfarin usage with INR 2

The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

Health History	Nurses' Notes	Vital Signs	Laboratory Results
<p>Client reports injuring his left ribs after being struck by a mechanically pitched baseball in a batting cage last week. He has significant bruising and feels light headed. He also reports having some intermittent pain in the left shoulder. He denies any shortness of breath, but has some discomfort in the left lower chest when taking a deep breath. He reports feeling abdominal fullness and is occasionally nauseous. Patient has no significant past medical history. His surgical history includes an orthoscopic repair to the left shoulder for a torn rotator cuff last year. He has not felt well enough to attend baseball practice since the injury.</p>			

➤ The nurse has been asked to prepare the client for immediate surgery. Which of the following actions should the nurse take? Select all that apply.

- Mark the surgical site.
- Provide the client with ice chips.
- Obtain surgical consent from the client.
- Perform a medication reconciliation.
- Insert a peripheral venous access device (VAD).
- Inform the client about the risks and benefits of the surgery.
- Assess the client's previous experience with surgery and anesthesia.
- Ask the client's parents to wait in the waiting room while you discuss the plan of care with the client.

■ **Extended Multiple Response Extended SATA Template:**

● {STEM - may be a chart to review/interpret}: Select from below options.

○ Option 1

○ Option 2

○ to...Option 10 (You can select up to all of the options provided!)

- **Select N** - Select X (Number from 1 to 5ish) from a list of 5+ options. Scored as 0/1 - 0 points for incorrectly selected options, and 1 point for correctly selected options.

## Maternal Nutrition

## Patient Data

## History &amp; Physical Laboratory Results

## Flow Sheet

Client is a 29-year-old primigravida with no history of menstrual disorder.

- Current height: 5'5"
- Weight: 187 pounds (84.8 kg)
- Blood pressure (BP): 138/92
- Temperature (Temp): 99.1° F (37.3° C)
- Pulse (P): 110
- Respirations (R): 20

Client is 10 weeks' gestation.

The nurse is meeting with a new client to discuss her care during pregnancy.

Select the 2 findings that require immediate follow-up.

- Temp 99.1° F (37.3° C)
- P110
- R 20
- BP 138/92
- BMI of 31.1
- HgB 10.2 g/dL
- Hct 35%
- PAPP-A 0.9 MOM
- HCG 194,800 mIU/mL

## Nurses' Notes

1900 – A 56-year-old female presents to the emergency department (ED) with reports of epigastric pain, shortness of breath, and dizziness. The client reports that the symptoms started eight hours ago and have progressively worsened. The client arrives pale and diaphoretic. The client has a medical history of type II diabetes mellitus and stated that her blood glucose has been 'very high.' The blood glucose was taken, and it was 110 mg/dL.

> Which five (5) client findings require follow-up by the nurse?

- Reports of epigastric pain
- Blood glucose of 110 mg/dL
- History of diabetes mellitus type II
- Reports of shortness of breath
- Progressive worsening of symptoms
- Reports of dizziness
- Pale skin and diaphoresis

■ Extended Multiple Response Select N Template:

● {STEM - may be a chart to review/interpret}: Select [2 to 5] from below.

○ Option 1

○ Option 2

○ to...Option 10 (Once selected amount is *selected* other options will grey out)

- **Multiple Response Grouping** - Select from a table of responses at least 1 correct answer from each. Scored as +/-.



Bowel Elimination – Patient 1

Patient Data

Nurses' Notes Flow Sheet

The nurse on the medical unit is caring for a male client, 54 years old, who developed Clostridium difficile (C. difficile or C. diff) after treatment with antibiotics for a severe infection. The client is experiencing explosive foul-smelling diarrhea. Client reports that orange juice makes it worse, even though he likes the taste.

0900  
Client reports abdominal cramping with diarrhea.

1100  
Client states, "I feel so weak."

The nurse reviews the flow sheet data and nurses' notes.

For each client need, click to specify the potential nursing intervention that would be appropriate for the care of the client.

Each client need may support more than one potential nursing intervention. Each category must have at least one response option selected.

Client Need	Potential Nursing Intervention
Nutritional	<input checked="" type="checkbox"/> Offer bland, low-residue foods <input checked="" type="checkbox"/> Avoid gas-producing foods <input type="checkbox"/> Offer orange juice
Elimination	<input checked="" type="checkbox"/> Obtain a bedside commode <input checked="" type="checkbox"/> Apply skin barrier ointment <input type="checkbox"/> Keep head of the bed flat when on the bedpan
Fluid and Electrolytes	<input checked="" type="checkbox"/> Request an intravenous (IV) infusion <input type="checkbox"/> Reduce fluid intake <input checked="" type="checkbox"/> Monitor for dehydration
Infection Control	<input type="checkbox"/> Test stool for ova and parasites <input checked="" type="checkbox"/> Wash hands with soap and water <input checked="" type="checkbox"/> Place on contact isolation precautions

Multiple Response Grouping

Select the anticipated physician orders from each of the following categories.

Category	Orders
Imaging	<input type="checkbox"/> chest x-ray <input type="checkbox"/> echocardiogram <input type="checkbox"/> abdominal ultrasound <input type="checkbox"/> upper gastrointestinal series
Monitoring	<input type="checkbox"/> continuous cardiac monitor <input type="checkbox"/> serial serum phosphorus levels <input type="checkbox"/> continuous pulse oximetry monitor <input type="checkbox"/> neurologic exam every 15 minutes
Medications	<input type="checkbox"/> niacin <input type="checkbox"/> aspirin <input type="checkbox"/> lisinopril <input type="checkbox"/> atropine

NOTE: Each category must have at least 1 response option selected.

- {STEM will instruct you to select at least 1 option from each category}: Options will be within a table



Assessment Findings	<input type="checkbox"/> Symptom/Sign <input type="checkbox"/> Symptom/Sign <input type="checkbox"/> Symptom/Sign
Treatments	<input type="checkbox"/> Non-Pharmacological <input type="checkbox"/> Pharmacological <input type="checkbox"/> Surgical
Vital Signs	<input type="checkbox"/> Vital <input type="checkbox"/> Vital
Lab values	<input type="checkbox"/> Lab w/normal range <input type="checkbox"/> Lab w/normal range <input type="checkbox"/> Lab w/normal range

- Possible options  are to be select (1 from each category), e.g. 12 options above. Only choose what is correct!



● **Bow tie:**

The nurse in the emergency department (ED) is caring for a 79-year-old female client.

<b>Nurses' Notes</b>	<b>History and Physical</b>
<p><b>1215:</b> Client accompanied to ED by daughter, right-sided ptosis with facial drooping noted. Right-sided hemiparesis and expressive aphasia present. Daughter reports client recently had an influenza infection. Lung sounds are clear, apical pulse is irregular. Bowel sounds are active in all 4 quadrants, skin is warm and dry. Incontinent of urine 2 times in the ED, daughter reports that the client is typically continent of urine. Capillary refill sluggish at 3 seconds. Peripheral pulses palpable, 2+. Vital signs: T 97.5° F (36.4° C), P 126, RR 18, BP 188/90, pulse oximetry reading 90% on room air. Capillary blood glucose obtained per protocol, 76 mg/dL (4.2 mmol/L). ED physician notified.</p>	

**"Bowtie" Item**

The nurse is reviewing the client's assessment data to prepare the client's plan of care.

➤ Complete the diagram by dragging from the choices below to specify what condition the client is most likely experiencing, 2 actions the nurse should take to address that condition, and 2 parameters the nurse should monitor to assess the client's progress.

Actions to Take	Potential Conditions	Parameters to Monitor
Request a prescription for an oral steroid.	Bell's palsy	temperature
Administer oxygen at 2 L/min via nasal cannula.	hypoglycemia	urinary output
Insert a peripheral venous access device (VAD).	ischemic stroke	neurologic status
Obtain a urine sample for urinalysis and culture and sensitivity (C & S).	urinary tract infection (UTI)	serum glucose level
Request an order for 50% dextrose in water to be administered intravenously.		electrocardiogram (ECG) rhythm

○  
○

The nurse is reviewing the client's assessment data to prepare the client's plan of care.

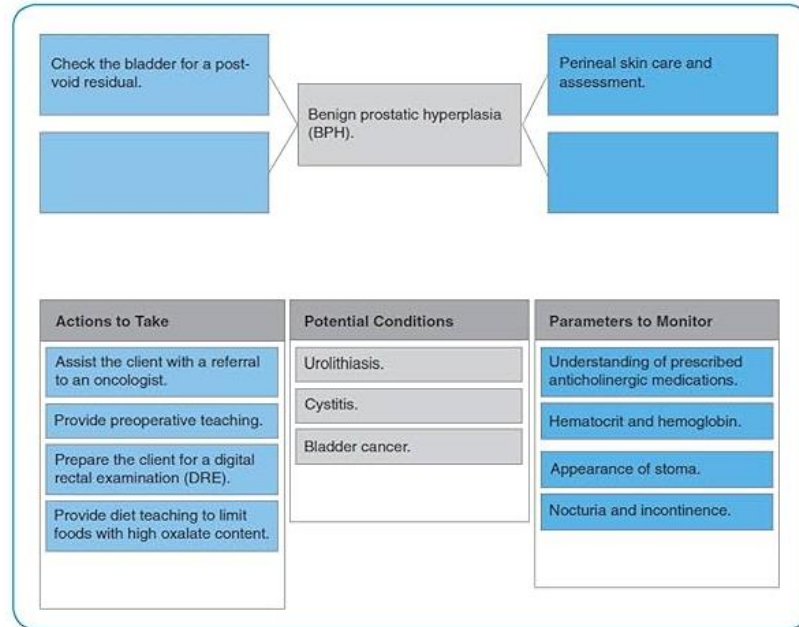
Complete the diagram by dragging from the choices below to specify what condition the client is most likely experiencing, 2 actions the nurse should take to address that condition, and 2 parameters the nurse should monitor to assess the client's progress.

Note: The above information and example are from Next Generation NCLEX Annex, Spring 2021.

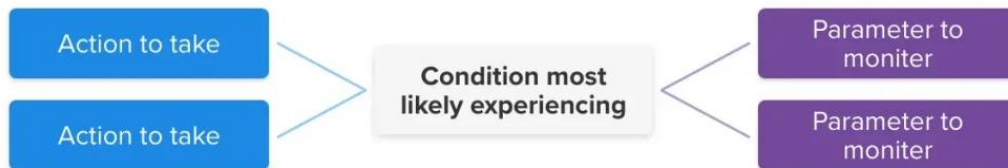
Action To Take	Potential Condition	Parameter to Monitor
Action To Take		Parameter to Monitor
<b>Action To Take</b>	<b>Potential Condition</b>	<b>Parameter To Monitor</b>
Request a prescription for an oral steroid.	Bell's palsy	temperature
Administer oxygen at 2 L/min via nasal cannula.	hypoglycemia	urinary output
Insert a peripheral venous access device (VAD).	ischemic stroke	neurologic status
Obtain a urine sample for urinalysis and culture and sensitivity (C & S).	urinary tract infection (UTI)	serum glucose level
Request an order for 50% dextrose in water to be administered intravenously.		electrocardiogram (ECG) rhythm

2 OF 13 QUESTIONS    VERSION 9842.0    Previous Next

○



- 
- Bow-Tie Template
  - {STEM may have you review information but NOT a case study}.  
Question will be in Bowtie format of:



- [2 blanks/actions to take] related to [1 blank/potential condition] monitored by [2 blanks/parameters to monitor]
- There are 3 groups of responses associated with each grouping.
- **Actions to Take** - You will drag 2 correct answers from a list of 4+ options
- **Potential Conditions**- You will drag ONE correct answer from a list of 4+ options. Answer this FIRST if possible!
- **Parameters to Monitor** - You will drag 2 correct answers from a list of 4+ options
- You wouldn't take an option from Parameters to monitor and drag it into Actions to take, for instance.

## ● Drop-down



- **Cloze** - filling in the blank between two related concepts.

The nurse is providing care to a 60-year-old male. The patient arrived to the Emergency Room with a sudden onset of weakness and numbness on the right side of the body. Below is the patient's electronic health record. Use the information in this record to answer the questions in this case study.

Health History	Nurses' Notes	Vital Signs	Laboratory Results
<p>The patient and his spouse were walking their dog around the neighborhood at 0945. The spouse states around 1000 during the walk the patient suddenly started to report a headache and dizziness along with slurred speech. Then right-sided hemiplegia and confused developed. The spouse called 911. The patient arrived to the ER at 1045. The patient is alert and presents with right-sided facial drooping with dysarthria, mild aphasia, no vision changes, and right-sided hemiplegia. NIHSS score is 16. Health history includes hypertension, smoker for 30 years, hyperlipidemia, diabetes Type 2, no head trauma or recent surgeries, and BMI 32.</p>			

The nurse receives an order for tPA administration in a patient with a diagnosis of ischemic stroke.

- ✦ Complete the statement below by selecting the correct options.

The nurse should immediately report the patient's to the doctor and  the tPA (tissue plasminogen activator).


The nurse is caring for a 17-year-old male client who reports a recent injury to the left thoracic cage.

Health History	Nurses' Notes	Vital Signs	Laboratory Results
<p>Client reports injuring his left ribs after being struck by a mechanically pitched baseball in a batting cage last week. He has significant bruising and feels light headed. He also reports having some intermittent pain in the left shoulder. He denies any shortness of breath, but has some discomfort in the left lower chest when taking a deep breath. He reports feeling abdominal fullness and is occasionally nauseous. Patient has no significant past medical history. His surgical history includes an orthoscopic repair to the left shoulder for a torn rotator cuff last year. He has not felt well enough to attend baseball practice since the injury.</p>			

The nurse is initiating the client's plan of care.

- Complete the following sentence by using the list of options.

The nurse should first address the client's  followed by the client's .

### ■ Drop-Down Cloze Template:

- {STEM - may be a chart to review/interpret}: Choose 2 answers (A & B) from a list of possible A answers, and possible B answers
  - Text **[Answer A: drop down of possible A answers]** text, text, text **[Answer B: drop down of possible B answers]**
    - Answer A & B options may have 2 to 4 responses to select from

o **Rationale**

➤ Complete the following sentence by choosing from the lists of options.

The client is at highest risk for developing  as evidenced by the client's

vital signs  
 neurologic assessment  
 respiratory assessment  
 cardiovascular assessment

hypoxia  
 stroke  
 dysrhythmias  
 a pulmonary embolism

Maternal Nutrition

Patient Data

**History & Physical**    Laboratory Results

Flow Sheet

Client is a 29-year-old primigravida with no history of menstrual disorder.

- Current height: 5'5"
- Weight: 187 pounds (84.8 kg)
- Blood pressure (BP): 138/92
- Temperature (Temp): 99.1° F (37.3° C)
- Pulse (P): 110
- Respirations (R): 20

Client is 10 weeks' gestation.

Based on the finding of high  and low

The nurse would prioritize

■ Drop-Down Rationale Template is same as Cloze Template, just that A & B are related to each other:

- {STEM - may be a chart to review/interpret}: Choose 2 answers (A & B) from a list of possible A answers **that relate to** possible B answers
  - o Text [Answer A: drop down of possible A answers] text, text, text [Answer B: drop down of possible B answers]

o **In-Table**

Endocrine – Patient 2

Patient Data

**History & Physical**    Laboratory Results

Nurses' Notes    Orders

0900:  
Intake:

- Current height: 5 feet, 10 inches
- Current weight: 250 pounds (113.3 kg)
- Body mass index: 35.9 kg/m2
- Temperature: 98.6°F (37°C)
- Blood pressure: 160/100 mm Hg
- Heart rate: 88 beats/min
- Respiratory rate: 18 breaths/min

4 months after office visit:  
Intake:

- Current height: 5 feet, 10 inches
- Current weight: 240 pounds (108 kg)
- Body mass index: 34.4 kg/m2
- Temperature: 98.6°F (37°C)
- Blood pressure: 160/90 mm Hg
- Heart rate: 86 beats/min
- Respiratory rate: 20 breaths/min

Based on new medications prescribed for this client, the nurse prepares to provide client teaching.  
For each medication, chose the appropriate option for Drug Classification and Client Teaching.

Medication	Drug Classification	Client Teaching
metformin	<input type="text" value="Select Response"/>	<input type="text" value="Select Response"/>
amlodipine	<input type="text" value="Select Response"/>	<input type="text" value="Select Response"/>
hydrochlorothiazide	<input type="text" value="Select Response"/>	<input type="text" value="Select Response"/> teach to eat foods high in potassium encourage limitation of oral fluids take a bedtime

Case Study Screen 4 of 6

The nurse is caring for a 42-year-old female client diagnosed with stage 2 breast cancer in the surgical oncology unit. The client has completed her third round of chemotherapy yesterday.

**Nurses' Notes** | **Laboratory Results**

Laboratory Test	Result	Reference Range
Red blood cells (RBC)	3.8 million/mm <sup>3</sup>	4.2 - 5.4 million/mm <sup>3</sup>
Hemoglobin (Hb)	12 g/dL (120 g/L)	12 - 16 g/dL (120-160 g/L)
Platelets (Plts)	150,500 /mm <sup>3</sup>	150,000 - 400,000 mm <sup>3</sup>
Neutrophils	2.1 x 10 <sup>9</sup> /L	2.0-7.5 x 10 <sup>9</sup> /L

Complete the following table of anticipated orders by choosing from the list of options.

Area of Care	Anticipated Orders
Hematological	Choose...
Gastrointestinal	Choose...
Integumentary	Choose... 4 mg Loperamide PO <b>17 g polyethylene glycol PO</b> 40 mg omeprazole PO

- Drop-Down In-Table Template is same as above except that there may be a rationale or cloze in a table format.
  - {STEM - may be a chart to review/interpret}: Choose an option in a column if a cloze, or 2 answers in two different columns if a rationale question.

Medication	[Drop down A options]	[Drop down B options <i>related to drop down A</i> ]
Treatment	[Drop down A options]	[Drop down B options <i>related to drop down A</i> ]
Intervention	[Drop down A options]	[Drop down B options <i>related to drop down A</i> ]
Complication	[Drop down A options]	[Drop down B options <i>related to drop down A</i> ]

- 3 to 5 options within each dropdown. In a cloze, there would only be one set of drop downs (two total columns - there wouldn't be B options)
- A dyad would be one sentence having one set of potential answers
- A triad would be one sentence having two potential answers each

**HIGHLIGHT TEXT**

● **Highlight [Enhanced Hot-Spot]**

- **Within Text** - Highlight what is indicate in the prompt (similar to a SATA)

The nurse is reviewing the patient's electronic health record to determine the patient's health status. Click to highlight the information in the record that would indicate to the nurse the patient is experiencing a stroke.

The patient and his spouse were walking their dog around the neighborhood around 0945. The spouse states around 1000 during the walk the patient suddenly started to report a headache and dizziness, along with slurred speech. Right-sided hemiplegia and confusion developed. The spouse called 911. The patient arrived to the ER at 1045. The patient is alert and presents right-sided facial drooping with dysathria, mild aphasia, no vision changes, and right-sided hemiplegia. Vital signs are Heart Rate 99, Blood pressure 210/116, Oxygen Saturation 98% on Room Air, Respiratory Rate 15, and Temperature 98.8. Health history includes hypertension, smoker for 30 years, hyperlipidemia, diabetes Type 2, no head trauma or recent surgeries, and BMI 32.



The nurse has reviewed the Orders from 1215.

- Click to highlight below the 3 orders that the nurse should perform right away.

**1215:**

- insert an indwelling urinary catheter
- vancomycin 1 g, IV, every 12 hours
- computed tomography (CT) scan of the chest
- 0.9% sodium chloride (normal saline) 500 mL, IV, once
- laboratory tests: blood culture and sensitivity (C & S), complete blood count (CBC), arterial blood gas (ABG)



■ **Highlight Template:**

- {STEM will instruct you to SATA - sometimes with how many}:  
Options will be *highlighted* amidst the text
  - Possible options are **[bracketed]**, e.g. 6 options above. Only choose what is correct!



- **Table** - Same as Highlight Within Text, except it will be within a table

Endocrine – Patient 1

**Patient Data**

History & Physical Nurses' Notes

**Laboratory Results**

**1200:** The client is an 11-year-old child brought into the emergency department after being found at home unconscious by her parent. The parent states the child has been drinking an excessive amount of fluids and has been frequently urinating, even throughout the night. Earlier in the day the child had reported abdominal pain and had one episode of vomiting before losing consciousness. Over the last week the child has lost weight, even though her appetite has increased tremendously. Upon assessment, dry mucous membranes, poor skin turgor, and soft and sunken eyes are noted. Assessment findings also reveal the child to have Kussmaul respirations.

**Vital signs**

- Temperature: 98.6F (37C)
- Heart rate: 128 beats/min
- Respiratory rate: 28 breaths/min
- Blood pressure: 80/50 mm Hg
- Pulse oximetry reading: 95%

The client was diagnosed with diabetic ketoacidosis and treatments were started.

Click to highlight the laboratory results in the table that indicate improvement in the client's condition from the treatment for diabetic ketoacidosis.

Laboratory Parameter	Result 1200	Result 1600	Result 2000	Reference Range
Red blood cells (RBC)	5.0 million/ $\mu$ L	4.6 million/ $\mu$ L	4.3 million/ $\mu$ L	Females: 4.2-5.4 million/ $\mu$ L Males: 4.7-6.1 million/ $\mu$ L
Hemoglobin (Hgb)	14 g/dL	12.8 g/dL	12.5 g/dL	Females: 12-16 million/ $\mu$ L Males: 4.7-6.1 million/ $\mu$ L
Hematocrit (Hct)	41%	38.2%	38%	Females: 37%-47% Males: 42%-52%
White blood cell count	12,000/mm <sup>3</sup>	12,500/mm <sup>3</sup>	12,000/mm <sup>3</sup>	5000-10,000/mm <sup>3</sup>
Glucose	480 mg/dL	300 mg/dL	180 mg/dL	<126 mg/dL
Blood urea nitrogen	40 mg/dL	28 mg/dL	18 mg/dL	7-20 mg/dL
Arterial pH	7.26	7.30	7.36	7.35-7.45
Bicarbonate (HCO <sub>3</sub> )	13 mEq/L	18 mEq/L	23 mEq/L	22-28 mEq/L
Urine ketones	Positive	Positive	Negative	Negative

Correct Words highlighted

- Highlight Table Template
  - {STEM will instruct you to SATA - sometimes with how many}: Options will be *highlighted* amidst the text **within the table**

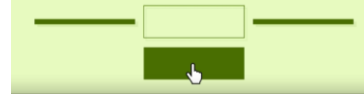
○

<b>[Text text text text text.]</b>	Text text text <b>[text text]</b> .	<b>[Text text]</b> text text text.
Text <b>[text text text text]</b> .	<b>[Text text text text text.]</b>	Text text <b>[text text]</b> text.
<b>[Lab value X]</b>	<b>[Lab value Y]</b>	<b>[Vital Sign Z]</b>

- Possible options are **[bracketed]**, e.g. 8 options above. Only choose what is correct!



## ● Extended drag-and-drop



- **Cloze** - Select from a word list and fill in the blanks by dragging and dropping. Scored as all or nothing (there will be left over responses)

The nurse administers the initial dose of medication as prescribed and documents in the Nurses' Notes.

Drag from Word Choices to complete the sentence.

The nurse identifies the priority client problems as , ,  
, and .

Word Choices

☰ nutritional deficit

☰ pain

☰ anxiety

☰ insufficient knowledge of medications

☰ reduced oxygenation

○

- Extended Drag and drop Cloze Template
  - {STEM - may be a chart to review/interpret}: Sentence will have blanks in it:
    - Text [\_\_\_\_] text, text. [\_\_\_\_][\_\_\_\_] text, text, text. List of [\_\_\_\_], [\_\_\_\_], [\_\_\_\_].
    - List of [Options] to drag and drop into blanks (Not all will be used! E.g. 5 blanks to fill above, but there may be 6 to 8 options)
  - **Rationale** - Drag and drop items between two categories based on prompt.

Vital Signs

Patient Data

Nurses' Notes History & Physical

Flow Sheet Orders

1330 (Day 1): Client identifies that there is no prior history of antihypertensive medication use. Client denies knowledge of drug effects and medication precautions. Client states currently experiencing a headache, 4 on a numeric 0-to-10 pain scale. Client takes chlorthalidone and lisinopril tablets without difficulty.

1000 (Day 2): Administered daily doses of chlorthalidone 12.5 mg po and lisinopril 10 mg orally. No current headache reported. Client has slept through the night.

1430 (Day 2): Client experiences an episode of dizziness when sitting up in bed in preparation for ambulation around the unit. The nurse assists the client back to bed, and symptoms resolve without further intervention. Vital signs assessed.

The client experiences dizziness several hours after administration of antihypertensive medication on hospital day 2, which the nurse documents in the Nurses' Notes.

Drag one condition and one client finding to complete the sentence.

The nurse determines that the client is experiencing  as a result of .

Options for 1

apnea

anxiety

Options for 2

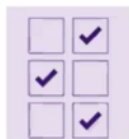
insufficient food intake

pain

medication side effects

Extended Drag and drop Rationale Template

- {STEM - may be a chart to review/interpret}: Sentence will have blanks in it:
  - Text text text [ ] is a **result of/because of/due to** [ ].
  - List of [Options] to drag and drop into blanks (Not all will be used! E.g. 2 blanks to fill above, but there may be 3 to 4 options)



Matrix/Grid

- Multiple Choice - Only one correct answer per row. At least 4 rows with 2 or 3 columns (each row must have an answer!)

The nurse is providing care to a 60-year-old male. The patient arrived to the Emergency Room with a sudden onset of weakness and numbness on the right side of the body. Below is the patient's electronic health record. Use the information in this record to answer the questions in this case study.

Health History

Nurses' Notes

Vital Signs

Laboratory Results

The patient and his spouse were walking their dog around the neighborhood at 0945. The spouse states around 1000 during the walk the patient suddenly started to report a headache and dizziness along with slurred speech. Then right-sided hemiplegia and confused developed. The spouse called 911. The patient arrived to the ER at 1045. The patient is alert and presents with right-sided facial drooping with dysarthria, mild aphasia, no vision changes, and right-sided hemiplegia. NIHSS score is 16. Health history includes hypertension, smoker for 30 years, hyperlipidemia, diabetes Type 2, no head trauma or recent surgeries, and BMI 32.

The patient is transferred to the nurse from Emergency Medical Services. The nurse has reviewed the patient's history and physical and has performed a nursing head-to-toe assessment. The nurse knows that the patient's diagnoses is ischemic stroke and is preparing for future orders that will be received.

In regards to future orders for this patient, click to specify if each order would be appropriate or inappropriate for this patient's situation.

Possible Order	Appropriate	Inappropriate
Lumbar Puncture	<input type="radio"/>	<input type="radio"/>
Complete Blood Count	<input type="radio"/>	<input type="radio"/>
Nasogastric Tube Insertion	<input type="radio"/>	<input type="radio"/>
TPA Administration	<input type="radio"/>	<input type="radio"/>
CT Scan	<input type="radio"/>	<input type="radio"/>
Echocardiogram	<input type="radio"/>	<input type="radio"/>
INR Level	<input type="radio"/>	<input type="radio"/>
Glucose Level	<input type="radio"/>	<input type="radio"/>

The nurse has performed the interventions as ordered by the physician for the client.

- For each assessment finding, click to specify if the finding indicates that the client's condition has improved, has not changed, or has declined.

Assessment Finding	Improved	No Change	Declined
RR 36	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BP 118/68	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pale skin tone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pulse oximetry reading 91%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
interacting with daughter at bedside	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Matrix Multiple Choice Template

- {STEM - may be a chart to review/interpret}: A table or matrix of options will then be before you to check the boxes of [only 1 per row]
  -

[Qualifier in Stem]	yes/affirmative/concerning	maybe/not-that important/grey-zone	NO/complication/bad
Treatment	<b>Check this box</b>	<b>Or this box</b>	<b>Or this box</b>
Intervention	<b>Check this box</b>	<b>Or this box</b>	<b>Or this box</b>
Order, etc	<b>Check this box</b>	<b>Or this box</b>	<b>Or this box</b>

- **Multiple Response/SATA** - Multiple correct answers per row. Between 2 to 10 columns and 4 to 7 rows (each column must have 1 response)

For each client finding below, click to specify if the finding is consistent with the disease process of pneumonia, a urinary tract infection (UTI), or influenza. Each finding may support more than 1 disease process.

Client Findings	Pneumonia	UTI	Influenza
fever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
confusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
body soreness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
cough and sputum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
shortness of breath	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Each column must have at least 1 response option selected.

Bowel Elimination – Patient 2

Patient Data

Nurses' Notes History & Physical

0800  
 Client is in rehabilitation after hip surgery. The client is alert, oriented to person, place, and time. The client's skin is warm and dry. Client reports needing to have a bowel movement but has been unable to do so for the last 3 days. The client called the nurse to the room stating, "I have had an accident and wet the bed. I need some help." Bed is wet from stool that is seeping from the rectum. Bed linens changed. Client cleaned and dried. The client states that her appetite has decreased. No nausea and vomiting present. She feels bloated. Abdomen distended with hypoactive bowel sounds. Vital signs: Temperature 97.6 °F (36.4 °C), Pulse 84 beats per minute, Respirations 20 breaths per minute, Blood pressure 142/86 mmHg, Oxygen saturation on room air 97%

The nurse is analyzing assessment data in the care of a 78-year-old female in rehabilitation after hip surgery.

For each assessment finding, click to indicate whether findings from this client's assessment are generally associated with constipation, fecal impaction, or flatus.

Each row must have at least one, but may have more than one, response option selected.

Assessment Findings	Constipation	Fecal Impaction	Flatus
Unable to have a bowel movement for the last 3 days	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Decreased appetite	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feels bloated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distended abdomen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hypoactive bowel sounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seepage of stool from the rectum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Matrix Multiple Response Template

- {STEM - may be a chart to review/interpret}: A table or matrix of options will then be before you to check MULTIPLE boxes of [at least 1 per column]
- 

[Qualifier in Stem]	Specific treatment	Specific symptom	Specific something
Treatment	<b>Check this box</b>	<b>And/or this box</b>	<b>And/or this box</b>

Intervention	<b>Check this box</b>	<b>And/or this box</b>	<b>And/or this box</b>
Order, etc.	<b>Check this box</b>	<b>And/or this box</b>	<b>And/or this box</b>

● **Trend (includes all question types except Bowtie):**

- There will be case studies that EVOLVE with more data added with each screen. There will be data for you to interpret each time. The question types associated with the case studies will be all of the above (except bowtie)
- There will be AT LEAST 3 case studies with 6 questions each (total of 18 questions). More case studies appear after 85 questions.

Case Study Screen 3 of 6

The nurse is caring for a 67-year-old male client in the emergency department (ED).

**History and Physical**

Client arrived to ED complaining of light-headedness and a severe headache for the past 5 hours. He is oriented to person, place, and time. Client reports nausea and states his vision is blurred. His skin is flushed and diaphoretic. He denies having chest pain, shortness of breath and abdominal discomfort. Vital signs: P 100, RR 18, BP 225/143, T 37.3° C (99.1° F), pulse oximetry reading 97% on room air. The client has a history of chronic hypertension for 5 years. He takes amlodipine but reports he has not taken his medication for the past two weeks due to work stress and busy arranging the funeral for his mother who recently passed away. Primary health care provider has been notified about client's hypertensive crisis.

The client has been diagnosed with hypertensive emergency with evidence of retinopathy.

➤ Complete the following sentences by choosing from the list of options.

The goal of treatment is to reduce blood pressure by no more than  within the first .

Blood pressure should then be stabilized to  within the next .

Choose...

Choose...

2-6 hours

**6-12 hours**

12-24 hours

○

The nurse is providing care to a 60-year-old male. The patient arrived to the Emergency Room with a sudden onset of weakness and numbness on the right side of the body. Below is the patient's electronic health record. Use the information in this record to answer the questions in this case study.

**Health History**

**Nurses' Notes**

**Vital Signs**

**Laboratory Results**

The patient and his spouse were walking their dog around the neighborhood at 0945. The spouse states around 1000 during the walk the patient suddenly started to report a headache and dizziness along with slurred speech. Then right-sided hemiplegia and confused developed. The spouse called 911. The patient arrived to the ER at 1045. The patient is alert and presents with right-sided facial drooping with dysarthria, mild aphasia, no vision changes, and right-sided hemiplegia. NIHSS score is 16. Health history includes hypertension, smoker for 30 years, hyperlipidemia, diabetes Type 2, no head trauma or recent surgeries, and BMI 32.

✦ **Drag the patient's modifiable risk factors for an ischemic stroke to the box on the right.**

Risk Factors	Modifiable Risk Factors
BMI 32	
Male	
60 years old	
Hypertension	
Smoker for 30 years	
Hyperlipidemia	
Diabetes Type 2	

○

**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."

### **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 the 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.nсна.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: ROUNDING RULES**

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 Ex: 34.5; to hundredths if less than 1 mL. Ex: 0.98
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. Ex: answer 38 gtts per minute **NOT** 38.2
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.
11. Intravenous fluids calculated in mL per hour may be rounded to tenths. If fluids are greater than 100, then the mL per hour must be in a whole.
10. Round pounds to tenths.
12. Round temperature to tenths.
13. When calculating run time of the IV pump, the answer should be in hours and minutes.
14. Time should be stated in a 24-hour clock. Ex: the answer should be **1604** and **NOT** 4:04 p.m. There are **NO colons** in a 24-hour clock.

15. If the number is a fraction (meaning less than 1) than a leading zero is required ex: 0.12.

If the answer has a zero at the end of the equation of a fraction, that is called a trailing zero—that is incorrect to keep zero. ex. 12.30. Therefore, drop the last zero making the answer 12.3—even if the answer requires rounding to the hundredths.



WEIGHTS AND MEASURES**Metric**

1 g = 1000 mg

1000 g = 1 kg

1 mg = 1000 mcg

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

1000 mL = 1 qt

500 mL = 1 pt

30 mL = 1 fluid ounce = 2 tbsp

5 mL = 1 tsp

30 g = 1 oz

1 kg = 2.2 lbs.

**Equivalent Weights for the Metric System**

1000 mL = 1 Liter

1000 mU = 1 Unit

1 liter of water = 1 kg

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

50% 50 g/100 mL

10% 10 g/100 mL

1:1000 1 g/1000 mL

**Temperature Conversions** Celsius =  $(F - 32^\circ) \times 5/9$  Fahrenheit =  $(9/5 \times C) + 32^\circ$ Example:  $98.6^\circ F = 37^\circ C$ **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:

$$\frac{A}{B} \frac{C}{D} \frac{E}{F} = \text{Quantity Desired}$$

The boxes represent the individual factors in the problem. Each pair of factors, i.e.,  $\frac{A}{B}$  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 us identify the **sets** in the examples.

**EXAMPLE #1, the sets are:**

1. 1 pound  
79 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. 2 dollars  
1 (purchase)

**EXAMPLE #2, the sets are:**

1. 500 mg  
1 tablet
2. 1000 mg  
1 (dose)

**EXAMPLE #3, the sets are:**

1. 1000 mL  
8 hours
2. 15 gtts  
1 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:

1 hour  
60 minutes

1 pound  
16 ounces

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

60 minutes  
1 hour

16 ounces  
1 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  $\boxed{A}$  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  $\boxed{A}$  we want the unit tablets. From the problem we take the factor "1" tablet.

1 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:

1 tablet  
500 mg

**STEP TWO**

Place similar units **diagonally** from each other. We now need another mg factor for space  $\boxed{C}$ . We need to change our mg to grams, because our order is in grams. The equivalent mg to g can go in space  $\boxed{C}$ . 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.

1 tablet 1000 mg = 500 mg 1 gram

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

<u>1 tablet</u>	<u>1000 mg</u>	<u>1 gram</u>
500 mg	1 gram	1 (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.

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

**STEP FOUR**

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

$$\frac{1 \text{ tablet}}{500 \text{ mg}} \times \frac{1000 \text{ mg}}{1 \text{ gram}} \times \frac{1 \text{ gram}}{1 \text{ (dose)}} = 1000 \text{ or } 2 \text{ tablets}$$

**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 canceled, **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.

$$\frac{1 \text{ mL}}{50 \text{ mg}} \times \frac{100 \text{ mg}}{1 \text{ (dose)}} \quad \text{All factors have been used.}$$

**STEP THREE** - Cancel all unwanted units.

$$\frac{1 \text{ mL}}{50 \text{ mg}} \times \frac{100 \text{ mg}}{1 \text{ (dose)}} =$$

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

**STEP FOUR** - Multiply straight across.

$$\frac{1 \text{ mL}}{50 \text{ mg}} \times \frac{100 \text{ mg}}{1 \text{ (dose)}} = \frac{100}{50} \text{ or } 2 \text{ mL}$$

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**

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

**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**

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

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?

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

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 CONVERSION PRACTICE PROBLEMS

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





## 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?
5. Give 1 g Drug X IV stat. You have a vial of Drug X 50%. 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?

### 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.
  
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?

## ANSWER SHEET

<p><b>Conversions:</b></p> <ol style="list-style-type: none"><li>1. 50 kg</li><li>2. 2</li><li>3. 500 mL</li><li>4. 2000 mL</li><li>5. 3500 mg</li><li>6. 15,000 g</li><li>7. 0.03 g</li><li>8. 1 L</li><li>9. 30 g</li><li>10. 1000 mcg</li><li>11. 1000 mg</li><li>12. 1 glassful</li></ol>	<p><b>Oral Drugs:</b></p> <ol style="list-style-type: none"><li>1. 2 cap</li><li>2. 2 cap</li><li>3. ½ tab</li><li>4. 1 tab</li><li>5. 1 ½ tab</li><li>6. ½ tab</li><li>7. 1 tab</li><li>8. 2 tab</li><li>9. 30 mL</li><li>10. 2.5 mL</li><li>11. 2.5 mL</li></ol>
<p><b>Parenteral Drugs:</b></p> <ol style="list-style-type: none"><li>1. 0.25 mL</li><li>2. 0.5 mL</li><li>3. 2 mL</li><li>4. 10 mL</li><li>5. 2 mL</li><li>6. 0.4 mL</li><li>7. 0.3 mL</li><li>8. 0.5 mL</li><li>9. Discard 0.6 mL and give 0.4 mL</li><li>10. 1.2 mL</li><li>11. 0.38 mL</li></ol>	<p><b>Intravenous Solutions:</b></p> <ol style="list-style-type: none"><li>1. 8 hr</li><li>2. 1728 mL</li><li>3. 2 ½ hr</li><li>4. 167 mL/hr</li><li>5. 31 gtts/min</li><li>6. 125 gtts/min</li><li>7. 120 gtts/min</li><li>8. 75 mL/hr</li><li>9. 200 mL/hr</li><li>10. 33 gtts/min</li></ol>



**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?
  
  
  
  
  
  
  
  
  
  
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?
  
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 gtts/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 gtts/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 gtts/mL. The patient weighs 220 pounds. Concentration of Drug **X** is 400 mg in 500 mL D5W.
  - 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?
  
  
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?
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.
- a. How many mg will your patient receive in 24 hours?
- b. 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 gtts/minute. Drop factor is 10 gtts/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?
  
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 gtts/mL. Calculate the mL/hour rate for the infusion pump.

18. Patient is to receive Drug X 4 mcg/kg/minute IVPB. Drop factor is 15 gtts/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?



**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 gtts/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		

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 the first dose? \_\_\_\_\_mL

How many mL for each of the following doses? \_\_\_\_\_mL

How many mg per day after the first dose? \_\_\_\_\_mg

5. Your patient's IV is infusing behind schedule. A 1000 mL bottle was to be infused in 8 hours. 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

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

## 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	gtts/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. 167 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 ( $^{\circ}\text{F}$ )?          F
  
2. The patient has a temperature of 103.6 degrees Fahrenheit ( $^{\circ}\text{F}$ ). What is the temperature in degrees Celsius ( $^{\circ}\text{C}$ )?          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
  
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**

1.  $^{\circ}\text{F} = (9/5 \times ^{\circ}\text{C}) + 32$   $^{\circ}\text{F} = (9/5 \times 37) + 32$  Answer: 98.6 $^{\circ}\text{F}$
2.  $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5/9$   $^{\circ}\text{C} = (103.6 - 32) \times 5/9$  Answer: 39.8  $^{\circ}\text{C}$
3. Answer: 4 hours and 48 minutes
4. Answer: 6 hours and 24 minutes
5.  $30 + 6 + 4 = 40$  units
6. Answer: 2320
7. 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
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 ten million 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? L
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? L
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 total amount for a single dose? The infant weighs four pounds.  
mg
17. 65 lbs. = kg
18. 15 mL = oz
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
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 8.4 lb. infant. Your ampule is labeled: 1 mL of Epinephrine 1:10,000. How many mL will you give? mL
30. 4 tbsp = oz.
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 Drug X/ 0.3 mL Drug Y**
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 gtts/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
<b>Serum BG</b> Hypoglycemia <60 Protocol, Call MD		Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD
<b>60-149</b>	0	0	0	0
<b>150-200</b>	0	2	4	6
<b>201-250</b>	3	6	8	10
<b>251-300</b>	4	8	12	14
<b>301-350</b>	6	10	14	18
<b>351-400</b>	9	12	16	22
<b>&gt;400</b>	Call MD	Call MD	Call MD	Call MD

- A non-compliant diabetic is coming off 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
<b>Serum BG</b> Hypoglycemia <60 Protocol, Call MD		Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD	Hypoglycemia Protocol, Call MD
<b>60-149</b>	0	0	0	0
<b>150-200</b>	0	2	4	6
<b>201-250</b>	3	6	8	10
<b>251-300</b>	4	8	12	14
<b>301-350</b>	6	10	14	18
<b>351-400</b>	9	12	16	22
<b>&gt;400</b>	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



5. The diabetic client is to receive their morning insulin and the nurse is reviewing the MAR below. Blood glucose is 149. How much total insulin will the client receive?

	HOUR				
<b>Regular insulin: 18 units BID, with meals</b> BG<60: Hypoglycemic Protocol, call MD Hold for; BG <100	0800			2000	
<b>70/30 insulin: 32 units BID</b> BG<60: Hypoglycemic Protocol, call MD Hold for; BG <100	0800			2000	
<b>Medium-Dose Sliding Scale, Lispro, QID</b> BG<60: Hypoglycemic Protocol, call MD 60-149: 0 units      251-300: 8 units 150-200: 2 units    301-350: 10 units 201-250: 6 units    351-400: 12 units >400: Call MD	0800	1000	1200	1600	2000

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



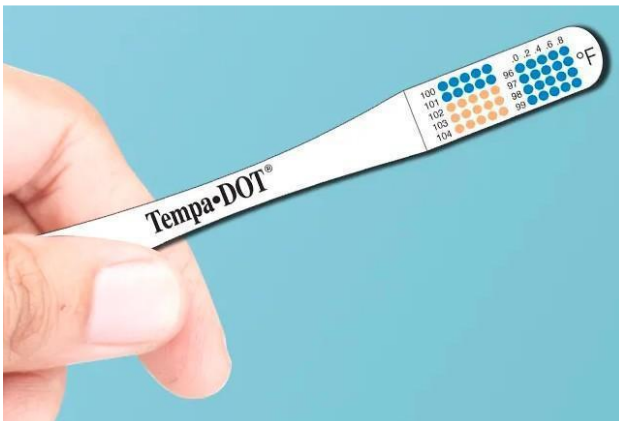
7. The client's temperature is 99.7°F. Reviewing the PRN meds ordered for the client, should the client receive their first dose of acetaminophen?

	HOUR				
<b>Acetaminophen 650mg, PO q6h PRN</b> 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  $0.25^{\circ}\text{C}$  per hour from their current temperature. What is the client's current temperature in Fahrenheit?
9. A concerned family member asks what temperature the patient is in with a number that 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?



11. The nurse is to start a phenylephrine infusion at  $0.5\text{ mcg/kg/min}$  for the client with a blood pressure of 76/32. The infusion comes as  $40\text{mg}/250\text{ml}$ , and the client weighs 92 kg. 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 (Richmond Agitation Sedation Scale) of -2. The patient weighs 106lb. What will be the starting rate on the IV pump (mL/hr)?



13. The nurse is preparing to administer a new vasopressor, Angiotensin II, to their 303lb client and reads the MAR below:

	HOUR																				
<b>Angiotensin II (Giapreza)</b>																					
<b>Titrate to MAP of 65 or greater</b>																					
<b>Start at 20 ng/kg/min</b>																					
<b>Titrate by 15 ng/kg/min every 5 min</b>																					

The infusion arrives from the pharmacy with a concentration of 10,000 ng/mL. What will be the starting rate of the infusion (ml/hr)?

ng=nanogram



16. The client just had a large volume paracentesis and is to receive 1.5g/kg within 6 hours of the procedure. On hand, the pharmacy has the albumin pictured below. The nephrologist asks how much volume (ml) that will be for the is 180lb patient in renal failure. You respond:



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)?



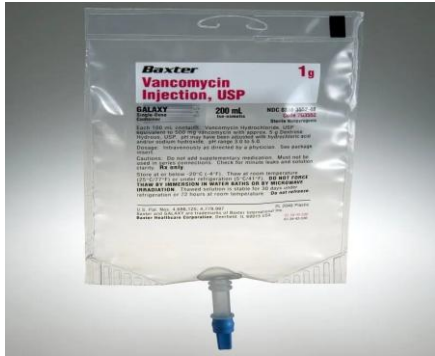
18. The surgeon asks for 7.5 ml of 2% lidocaine. How many mg will be given subcutaneously?



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?



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 3.375 g 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 q 24 hours. What rate will the IV pump be set to (ml/hr)?





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

24. You have an infusion of eptifibatide infusing on your 99 kg client who has just arrived from the catheter 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?



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





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 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 citric acid sodium salt. Add 2.7 mL Sterile Water for Injection, USP, to 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 Fortis-Merck Ecobio Company  
Product # U19546  
NDC # 0015-7979-20-1

Cont: \_\_\_\_\_  
Exp. Date: \_\_\_\_\_

Sterile water for injection. Add 2.7 mL of air to diluent.  
Sterile water for injection. Withdraw 2.7 mL of diluent.  
Add 2.7 mL sterile water for injection to oxacillin sodium.  
Oxacillin sodium 500 mg per 3 mL.

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

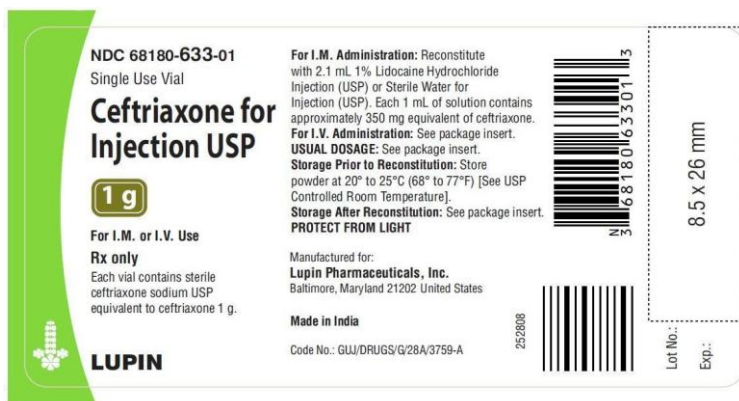
Y10677

TEVA

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



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?



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 Biocchimico Italiano  
Made in Italy | ©2019 Athenex. | 8115002

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**



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 (gtts/min) be for an ordered infusion of Lactated Ringers over 10 hours?

**CLEARLINK System**

**CONTINU-FLO Solution Set**

12" (2.9 m), 2 Luer Activated Valves  
Male Luer Lock Adapter with Rotatable Collar

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

**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 (5) 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 provided antiseptic prior to first use and before every subsequent connection. Access Luer activated valve (5) by firmly pushing, slide 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.

**Warnings:** Do not allow set to be trapped in set. Priming set components may cause air embolism. Do not swab Luer activated surface (5) when downstream clamp is closed or when it is needed. Ineffective swabbing may result. Replace set if valve remains depressed. Do not access Luer activated valve with needles or cannula. Attempting such access will render the set unusable. Replace immediately. Use of Luer lock connection is not intended. If Luer lock connection is used, insert into valve using a firm push and twist motion. Do not leave Luer lock unattended. Trace lines to flow connection. Do not connect any compressed gas device to intravenous administration. Rx Only. Single use only. Do not reuse.

**Notes:** This product is not made with natural rubber latex. This product contains DEHP. To stop flow without disturbing regulating device (7), close valve 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 closed or blood reappears 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 pumps or SGMs, Spectrum infusion system, replaceable per directions in respective pump/infuser. When used with ISO-CARD pumps, replace after 24 hours. Lengths are approximate. For Product Information 1-800-933-0353

**Baxter**  
Manufactured by an affiliate of Baxter Healthcare Corporation  
Deerfield, IL 60015 USA  
Made in Costa Rica  
07-35-74-349 Rev. 2016-04-01

Baxter, Clearlink, Continu-Flo, Flo-Gard and SIGMA Spectrum are trademarks of Baxter International Inc.



2C8519 s

10 Drops/mL Approx.

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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)?

IV bag

Microdrop

**InterLink® System**

**Continu-Flo® Solution Set**

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

**60**  
drops/mL

Fluid path is sterile, nonpyrogenic.  
Caution: Do not use if the prefilters (1) are not in place. Do not place on electric heat.

**Directions: Use aseptic technique**

Close regulating clamp (7). Insert spike (2) into container. Air spike chamber (3) is 38 mm. Close regulating clamp (5). Insert and set check valve (6) for single or double priming. Flow does not start instantly upon connection. Prime set, purge air. Close monitoring clamp (7) until color match between air frame. Attach Luer lock adapter (8) to InterLink® catheter or vascular access device.

To properly set flow, always close regulating clamp (7) until flow ceases below frame. Then regulate to available flow rate. Repeat procedure if adjusting clamp from top open position.

**Caution:**

Do not allow air to be trapped in set.

Puncturing set components may cause air embolism.

Close monitoring set clamp when flow rate exceeds 300 mL per hour to prevent air from being drawn into set.

If needle must be used, insert small gauge needle into port of manifold.

In some USA the restrictor flow device is sold by or on center of a package.

Single use only. Do not reuse.

**Notes:**

Check occlusion of injection site (9) with aseptic prior to access.

Access InterLink® injection site (identified by colored ring) with InterLink® catheter. See catheter directions. For secondary medication administration, use open Y injection site only. See directions for use with secondary medication set.

To stop flow without disconnecting regulating clamp (7), close frame (8) (open (9)).

Regulate per CDC guidelines.

For Product Information: 800-822-0000

**Baxter**

Manufactured by one of our affiliates:  
Baxter Healthcare Corporation  
Deerfield, IL 60015 USA  
Baxter Healthcare Corporation  
Franklin Park, IL 60141 USA  
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Healthcare Corporation. All rights reserved.  
U.S. Pat. Nos. 5,812, 491; 4,892, 286;  
5,102,688; 5,112,294; 5,108,650

7

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.  $12 \text{ units Lispro} + 22 \text{ units glargine} + 20 \text{ units NPH} = \mathbf{54 \text{ units total}}$
2.  $[0.8 \times 60 \text{ units}] = 48 \text{ total units NPH per day}$   
 $48 \text{ units/ day} \times 1 \text{ day/ 2 doses} = \mathbf{24 \text{ units/ dose}}$
3.  $14 \text{ units} + 14 \text{ units} + 22 \text{ units} + 18 \text{ units regular} = \mathbf{68 \text{ units of regular insulin, total}}$
4.  $1 \text{ unit/ 15 g Carbs} \times 120 \text{ g Carbs/ meal} = \mathbf{8 \text{ units/meal}}$
5.  $18 \text{ units Regular} + 32 \text{ units 70/30} + 0 \text{ units Lispro} = \mathbf{50 \text{ units total}}$

**Fahrenheit to Centigrade**

6.  $(28.1 \times 9/5) + 32 = 82.58 = \mathbf{82.6 F}$
7.  $(99.7 - 32) \times 5/9 = \mathbf{37.6, yes}$
8.  $(36 \times 9/5) + 32 = \mathbf{96.8 F}$
9.  $(33.2 \times 9/5) + 32 = 91.76 = \mathbf{91.8 F}$
10.  $(101.8 - 32) \times 5/9 = 38.77 = \mathbf{38.8 C}$

**Mcg/kg/min to mL/hour (Weight Dosing)**

11.  $250\text{mL}/40\text{mg} \times 1 \text{ mg}/1000\text{mcg} \times 0.5 \text{ mcg/ kg/min} \times 60 \text{ min/hr} \times 92 \text{ kg/ pt.} = 17.25 = \mathbf{17.3 \text{ mL/hr}}$
12.  $50 \text{ mL}/50 \text{ mg} \times 0.02 \text{ mg/kg/hr} \times 1 \text{ kg}/2.2 \text{ lbs.} \times 106 \text{ lbs./ pt.} = 0.963 = \mathbf{1 \text{ mL/hr}}$
13.  $1 \text{ mL}/ 10,000 \text{ ng} \times 20 \text{ ng/kg/min} \times 60 \text{ min/ 1 hr} \times 303 \text{ lbs. /pt.} = 16.52 = \mathbf{16.5 \text{ mL/hr}}$
14.  $100 \text{ mL}/20 \text{ mg} \times 1 \text{ mg}/ 1000\text{mcg} \times 0.375 \text{ mcg/ kg/min} \times 60 \text{ min/ 1 hr} \times 102 \text{ kg/ pt.} = 11.475 =$

**11.5 mL/hr**

**% solution to grams of Dextrose**

15.  $100 \text{ mL} / 50 \text{ g} \times 12.5 \text{ g/dose} = \mathbf{25 \text{ mL}}$

16.  $100 \text{ mL} / 20 \text{ g} \times 1.5 \text{ g/kg} \times 1 \text{ kg} / 2.2 \text{ lbs.} \times 180 \text{ lbs./pt.} = 613.63 = \mathbf{613.6 \text{ mL}}$

17.  $100 \text{ mL} / 10 \text{ g} \times 1 \text{ g} / 1000 \text{ mg} \times 8 \text{ mg/kg/min} \times 60 \text{ min/1 hr.} \times 88 \text{ kg/pt.} = \mathbf{422 \text{ mL/hr.}}$

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

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

**mLs per hour**

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

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

22.  $50 \text{ mL/dose} \times \text{dose} / 3 \text{ min} \times 60 \text{ min./1 hour} = \mathbf{100 \text{ mL/hr}}$

**mL/ hour: What time will the fluid/ medication finish?**

23.  $16 \text{ hr} / 1000 \text{ mL} \times 950 \text{ mL/dose} = 15.2$   
 $\times 60 \text{ min/1 hour} = 12 \text{ min}$   
 minutes  
**2312**

$0.2 \text{ hr/dose}$   
 $15 \text{ hours} + 12$   
 $0800 + 15 \text{ hr and } 12 \text{ minutes} =$

24.  $100 \text{ mL} / 75 \text{ mg} \times 1 \text{ mg} / 1000 \text{ mcg} \times 2 \text{ mcg} / \text{kg} / \text{min} \times 99 \text{ kg} / \text{pt.} \times 60 \text{ min} / 1 \text{ hr.} = 15.84 \text{ mL/hr}$       $1 \text{ hr} / 15.84 \text{ mL} \times 75 \text{ mL} / \text{remaining} = 4.73 \text{ hrs.}$       $0.73 \text{ hr} / \text{dose} \times 60 \text{ min} / 1 \text{ hour} = 43.8 = 44 \text{ minutes}$       $2221 = 4 \text{ hr and } 44 \text{ min.} =$   
**0305**
25.  $100 \text{ mL} / \text{dose} \times 1 \text{ hour} / 400 \text{ mL} = 0.25 \text{ hr}$       $0.25 \text{ hr} / \text{dose}$   
 $\times 60 \text{ min.} / 1 \text{ hr.} = 15 \text{ min.}$       $1450 + 15 \text{ min.} =$  **1505**

### Reconstitute Medication in a Syringe

26.  $3 \text{ mL} / 500 \text{ mg} \times 20 \text{ mg} / \text{kg} \times 24 \text{ kg} / \text{pt.} = 2.88 =$  **2.9 mL**
27.  $1 \text{ mL} / 1 \text{ mg} \times 0.08 \text{ mg} / \text{kg} \times 142 \text{ kg} / \text{pt.} = 11.36 =$  **11.4 mL**
28.  $15 \text{ mL} / 500 \text{ mg} \times 240 \text{ mg} / \text{dose} =$  **7.2 mL**

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

29.  $1 \text{ mL} / 350 \text{ mg} \times 100 \text{ mg} / \text{kg} / \text{day} \times 1 \text{ day} / 2 \text{ doses} \times 1 \text{ kg} / 2.2 \text{ lbs.} \times 102 \text{ lbs.} / \text{pt.} = 6.62 =$  **6.6 mL**
30.  $1 \text{ mL} / 1,000,000 \text{ units} \times 300,000 \text{ units} / \text{kg} / \text{day} \times 1 \text{ day} / 6 \text{ doses} \times 77 \text{ kg} / \text{pt.} = 3.85 =$  **3.9 mL**
31.  $10 \text{ gtts} / 1 \text{ mL} \times 1000 \text{ mL} / 1 \text{ L} \times 1 \text{ L} / 10 \text{ hr} \times 1 \text{ hr} / 60 \text{ min.} = 16.67 =$  **17 gtts/ min**
32.  $60 \text{ gtts} / 1 \text{ mL} \times 150 \text{ mL} / 1 \text{ hr} \times 1 \text{ hr.} / 60 \text{ min.} =$  **150 gtts/ min.**

### Units per mL—How many mLs will you give?

33.  $1 \text{ mL} / 100 \text{ units} \times 94 \text{ units} / \text{dose} =$  **0.94 mL**
34.  $1 \text{ mL} / 5,000 \text{ units} \times 10,000 \text{ units} / \text{dose} =$  **2 mL**