

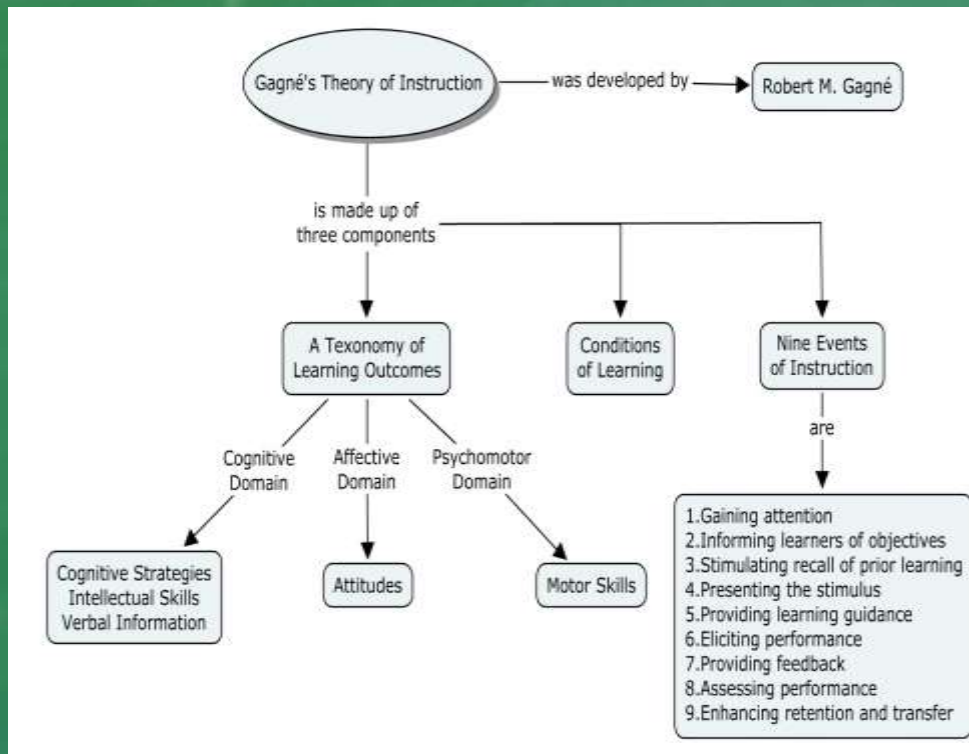
INSTRUCTIONAL DESIGN ADMINISTRATION OF AN INTRAMUSCULAR INJECTION



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Gagne's Theory of Instruction



- I will use the Gagne model as a framework for my instructional design.
- the theory outlines nine instructional events

(model retrieved from Google Images)

Gagne's Theory of Instruction

The following example illustrates a teaching sequence corresponding to the nine instructional events for the objectives.

Throughout my lesson, I will incorporate the ADDIE process to facilitate instruction.

1. Gain attention
2. Identify objective
3. Recall prior learning
4. Present stimulus
5. Guide learning
6. Elicit performance
7. Provide feedback
8. Assess performance
9. Enhance retention/transfer

Purpose of Lesson

The lesson that I am planning will provide freshman nursing students the required knowledge needed to administer intramuscular injections to their patients safely, following standard precautions.



Description of lesson

Students will learn:

- Terminology of parental medication along with the advantage of administration
- Principles of asepsis and standard precautions
- Correct needle and syringes used
- Correct method for drawing medication up
- Correct anatomical injection sites, and the correct technique for safely administering the injection.

Analyze Phase



Characteristics of learners:

- The group of learners consist of 20 first year nursing students.
- The average age of the students generally range from 19-45yrs. They all have a high school diploma, and meet program requirements in pre-requisites and GPA.
- The group consists of diverse learners including ESL, with language barriers.
- Other characteristics of the students include , health care experience as a NA or LPN

Analyze Phase



Performance gap:

- Nursing students have no prior knowledge or psychomotor practice of this skill, therefore the performance gap is lack of knowledge and skill in performing an intramuscular injection.

Goal:

- Students will administer an intramuscular injection following correct technique and standard precautions.

Design Phase



Task inventory:

- Recognize rationale for asepsis in preparing and administering parenteral medication.
- Display competency in selecting appropriate size needle and syringe.
- Demonstrate correct technique for withdrawing medication from a vial.
- Identify correct anatomical landmark for injection.
- Recognize safety precautions during and immediately following an injection.

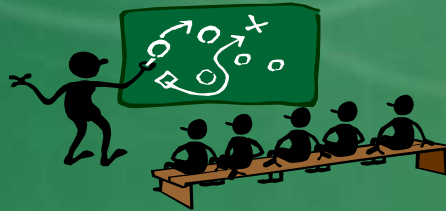
Performance Objectives

- After instruction, the students will correctly prevent contact with micro-organisms while preparing and administering parenteral medication.
- Choosing necessary supplies, the student will demonstrate correct technique for withdrawing medication from a vial.
- Using a manikin, the students will identify correct anatomical landmarks prior to injection, with 100% accuracy.
- After instruction, the students will demonstrate proficiency in administering an IM injection safely, following standard precautions.

Develop and Implementation

This section will include a comprehensive set of learning resources to help facilitate instruction.

- Included are the content, instructional strategies, lesson plan, and educational media needed to support and enhance the learning episode.
- Directions will offer guidance during skill demonstration and students independent activity and practice .
- Formative and summative evaluation plan will be addressed.



Develop and Implementation



Lesson Plan:

1. **Gain attention:** Ask the students- What is parenteral medication? Why do we administer them into large muscles? Answer: Parenteral medication is an introduction of medication into the body by injection. Intramuscular (IM) injections go into a large muscle mass with good blood supply. Absorption occurs within 30 minutes. (5 min)

This type of questioning at the beginning of the lesson will stir interest and create interactive discussion.

Develop and Implementation

2. **Informing the learner of the objective:** Today you are going to learn how to administer parenteral medications through an IM injection. We will review the objectives of the lesson, and I will demonstrate the skill.
- Review the objectives, pausing after each one to allow time for questions. Stress important aspects of each objective. (30 min)



Develop and Implementation

3. Stimulating recall of prior learned knowledge:

- Ask the students to recall their previous lesson on asepsis. Review their pre-requisite knowledge of asepsis and the principles of standard precautions.
- Activity: pre-test or verbal recall

This knowledge will provide the foundation for the prevention of infection, and the administration of a safe injection.



Develop and Implementation

4. Presenting the stimulus: (content)

Review asepsis and standard precautions:

- Wash hands prior to preparing medication
- Use antimicrobial pad each time you enter a vial, and to cleanse patient's skin before injection.
- Wear gloves when administering an IM injection
- DO NOT re-cap needle, use safety glide
- Immediately dispose syringe in receptacle
- Wash hands prior to leaving patient's room.



Develop and Implementation

Be competent in selecting the appropriate needles and syringes needed for an IM injection:



Demonstrate awareness of various syringes and their calibrations. Differentiate between sizes of needles and reasons for their use.

Activity/Resources: Show students various sizes of needles and syringes. Discuss rationale for use.

- Select 22gauge or larger for IM injection
- Select appropriate size syringe for accurate medication dose.

Develop and Implementation

Choose appropriate injection sites:

A major consideration of in the administration of IM injections is the selection of a safe site away from large blood vessels, nerves, and bone.

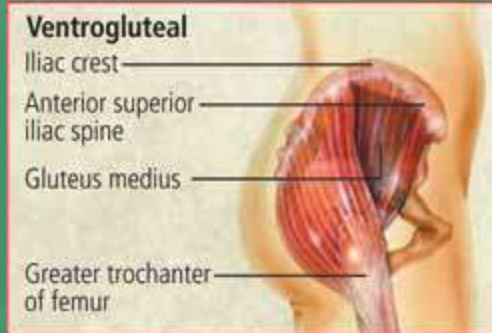
Activity/Resources: Use whiteboard and illustrated diagram to teach sites specific for IM injection use. Select site according to type of medication, dose and patient assessment. Students may refer back to their textbook diagrams. Use manikins for anatomical landmarks. Students may also break up into small groups to demonstrate recognition of landmarks on each other.



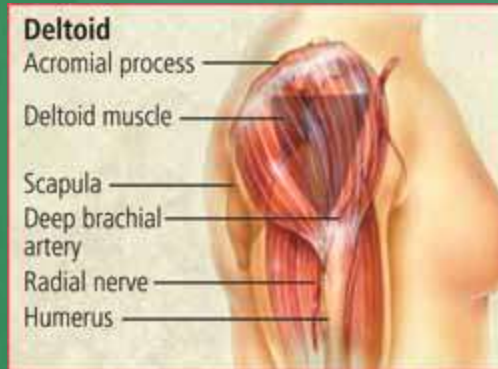
Develop and Implementation

IM injection sites

- Ventrogluteal site

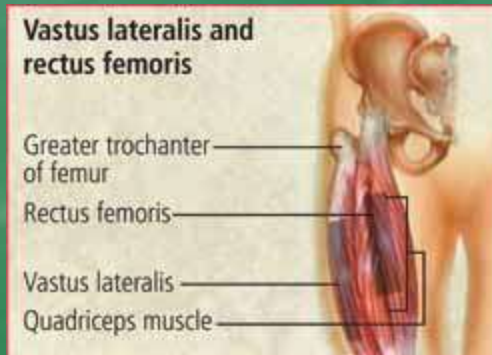


- Deltoid



- Vastus Lateralus

- Rectus Femoris



Develop and Implementation

Administer IM injections safely following the following criteria:

- Check for six administration rights:
Right patient, drug, dose, time, route, and documentation.
- Check for physician's order and accurate medication administration record (MAR).
- Chart medication accurately and immediately after administration.
- Only give medication which you have prepared.



Develop and Implementation

Be competent in withdrawing medication from a vial correctly and accurately.

Activity/Resources: Show students vials of medication, and correct way to withdraw fluid from vial into a syringe. Discuss importance of obtaining accurate dose of medication .



Develop and Implementation

- 5. Providing Learner Guidance:** Instructor demonstrates how to administer an IM injection on a manikin. Learning is facilitated by stressing important elements along the way. (30 min)
- Check MAR against Dr. order, wash hands, collect supplies.
 - At med cart withdraw correct medication from vial, compare dosage and medication against MAR (3 checks)
 - Identify patient (ask name, and check armband against MAR), assess for allergies.

Develop and Implementation

- Apply gloves, select appropriate site.
- Alcohol site and let dry for 30 seconds
- Remove cap, taut skin, quickly insert needle at 90 degree angle, aspirate for blood, (if blood is seen withdraw needle) if no blood is seen, inject steadily and consistently, remove needle at 90 degree angle, apply antimicrobial pad to site and massage gently.
- Engage safety glide over needle, discard in sharp container.
- Wash hands, leave room, document on MAR.



Develop and Implementation

6. **Eliciting Performance:** Instructor asks students to demonstrate skill. This requires the learner to demonstrate what has been taught, enabling them to confirm their learning.

Activity/resources: Students will break up into 4 groups of 5 students. They will rotate through all four stations where they will have hands on practice.

Station 1: Syringes- students will read labels to select appropriate syringe, select correct needle and tighten it to syringe, engage safety guide.



Develop and Implementation

Station 2- Medication vial-students will select correct medication and practice withdrawing accurate dosage from vial. Recognize importance of eliminating air from syringe, and priming needle.



Station 3- Manikin- students will correctly identify anatomical landmarks used for IM injections.

Station 4- Injection gel pillows/manikin- students will practice administering injections into gel pillows or manikin using correct technique and following standard precautions.



Evaluation



7. **Giving Feedback:** Instructor provides immediate feedback to learners as they practice. Regular feedback enhances learning. Formative assessment helps to identify effectiveness of instruction, and identifies learning resources that need to be revised. Students attitudes towards the instruction will be assessed for improvement of future instruction.
- Instructor will walk around the room during the group activities and provide constructive feedback to students.

Evaluation



8. **Assessing Performance:** Students take what they learned and apply it.
- Skill competency testing in nursing skills lab.
 - Students will select appropriate supplies and injection site, follow standard precautions, and administer injection correctly and safely.
 - Summative evaluation will occur through observation of skill performance and criterion-referenced post test.
 - Data collected will help determine effectiveness of instruction.

Evaluation



Formative Assessment

observation during practice

feedback

student involvement

Summative Assessment

observation of student

performance

criterion-referenced

post test

Evaluation



9. Enhancing retention and Learning transfer:

Students knowledge and skill will be measured as they are applied to an authentic work environment.

- Transfer of skill at clinical site.
- Students will administer an intramuscular injection following correct technique and standard precautions.
- Evaluation made by clinical instructor during students clinical performance. Performance checklist will be used.



Application of learned skill in real-life situation is a step towards mastery learning.

Successful skill competency demonstrates students have met instructional goal and performance objectives necessary to close the performance gap.



References

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A PROVEN SUCCESS!

The End