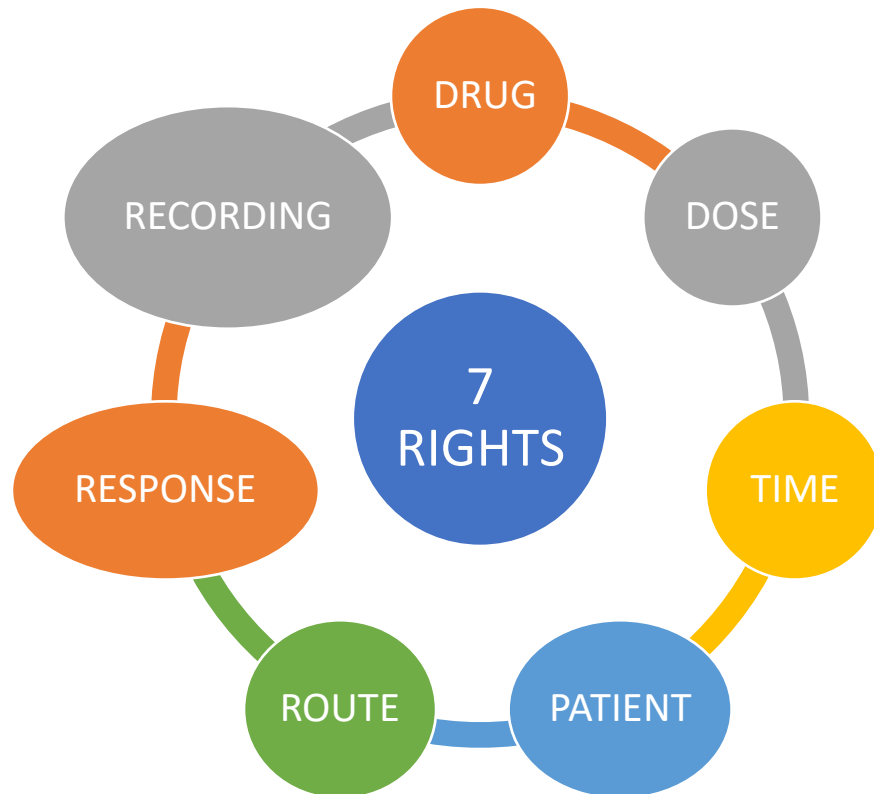


DRUG ADMINISTRATION

PRINCIPLES OF DRUG ADMINISTRATION



THE RIGHT PATIENT

- ▶ Check the name on the order and the name of the patient.
- ▶ Use 2 identifiers.
- ▶ Ask the patient to identify himself/herself.
- ▶ When available, use technology (for example, bar-code system).

THE RIGHT DRUG

- ▶ Check the medication label;
- ▶ Check the order of administration;
- ▶ Check if the drug is valuable and doesn't contain precipitations.

THE RIGHT DOSE

- ▶ The dose should be indicated by the doctor
- ▶ Check the order.
- ▶ Confirm appropriateness of the dose using a current drug reference.

- ▶ If necessary, calculate the dose and have another nurse calculate the dose as well.

THE RIGHT TIME

- ▶ Check the frequency of administering the ordered medication.
- ▶ Double-check that you are giving the ordered dose at the correct time.
- ▶ Confirm when the last dose was given.

THE RIGHT ROUTE

- ▶ Again, check the order and appropriateness of the ordered route.
- ▶ Confirm that the patient can take or receive the medication by the ordered route.

Drugs are introduced into the body by several routes:

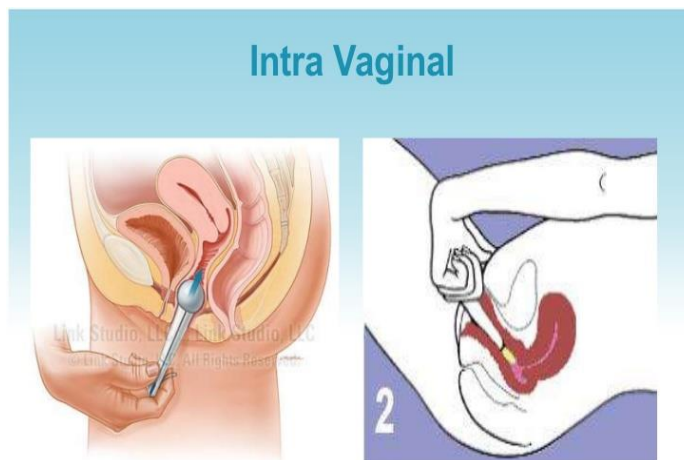
- ▶ by mouth (orally)- tablets or suspensions;



- ▶ placed under the tongue (sublingually) for rapid action



- ▶ inserted in the rectum (rectally) or vagina (vaginally)- suppositories;



- ▶ placed in the eye (by the ocular route) or the ear (by the otic route) for topical administration;
- ▶ sprayed into the nose and absorbed through the nasal membranes (nasally);
- ▶ breathed into the lungs, usually through the mouth (by inhalation) or mouth and nose (by nebulization);
- ▶ applied to the skin (cutaneously) for a local (topical) or bodywide (systemic) effect;
- ▶ delivered through the skin by a patch (transdermally) for a systemic effect;

Each route has specific purposes, advantages, and disadvantages.

Definition of Injections

- ▶ An **injection** (often referred to as a "shot" in US English, or a "jab" in UK English) is an [infusion method](#) of putting fluid into the [body](#), usually with a [syringe](#).

- ▶ The **World Health Organization** (WHO) defines a safe injection to be one that does not harm the recipient, does not harm the health care worker, and does not harm the community.



Unnecessary injections should be eliminated because they may be dangerous. Injections can:

- ▶ spread hepatitis b virus, hepatitis c virus, HIV and other pathogens;
- ▶ cause nerve and other tissue damage, which can lead to paralysis;
- ▶ cause abscesses and injuries.



INTRAMUSCULAR INJECTIONS

There are some standard rules to follow on how to give an IM injection regardless the location of the injection site. These are:

- ✓ Always wash hands with soap and dry them thoroughly;
- ✓ Always prepare the needle and injection dose appropriately;
- ✓ Always clean the injection site with an alcohol swab.
- ✓ Use a sterile syringe and sterile needle for every injection;
- ✓ Open the package in front of patients to reassure them that the syringe and needle have not been used before;
- ✓ Always ensure that intramuscular injection angle is at a 90-degree angle;
- ✓ If blood appears, remove and dispose of the needle, prepare and apply a new shot;
- ✓ Inject, do not push, the needle and medication slowly;
 - ✓ After use, immediately put used syringes and needles in a puncture-proof sharps container;
 - ✓ Keep a safety box where the injections are given;

- ▶ Do not store used sharps in an open container where they can be reused or cause needle-stick injuries when dumped;



INTRAVENOUS CONTINUOUS INFUSION

- ▶ The administration set;
- ▶ IV bag or solution for infusion;
- ▶ The tripod;
- ▶ Drip chamber -we measure the speed of a manual IV setup; we look at this chamber and count the number of drops we see per minute. The drip chamber must always be half full;
- ▶ The roller clamp - we use it to control the rate at which the IV fluid infuses. Every IV medication will be ordered to infuse at a specific rate;
- ▶ The injection port is a place where medicine or fluids other than those in the current IV bag can be injected so that they will infuse into the patient's vein through the IV tubing.

STEPS

- ▶ take the solution for infusion;
- ▶ remove the lid from the solution and process it with alcohol (the entrance of the infusion);
- ▶ open and straighten the system on a sterile table;
- ▶ close the roller clamp;
- ▶ insert the needle in the bag or bottle;
- ▶ put the bottle or bag in the tripod;
- ▶ open the air dope to correlate the level in the drip chamber;
- ▶ open the roller clamp and remove the air from the administration set.

RISKS OF INJECTIONS

- ▶ infection at site of injection;

- ▶ skin irritation at site of injection;
- ▶ tingling and/or numbness;
- ▶ allergy reactions;
- ▶ bleeding;
- ▶ nerve or blood vessel damage;
- ▶ pain at site of injection.

THE RIGHT DOCUMENTATION

- ▶ Document administration AFTER giving the ordered medication.
- ▶ Chart the time, route, and any other specific information as necessary. For example, the site of an injection or any laboratory value or vital sign that needed to be checked before giving the drug.

THE RIGHT RESPONSE

- ▶ Make sure that the drug led to the desired effect. If an antihypertensive was given, has his/her blood pressure improved? Does the patient verbalize improvement in depression while on an antidepressant?
- ▶ Be sure to document your monitoring of the patient and any other nursing interventions that are applicable.

MEDICAL DIETS

The following is the list of therapeutic diets by Pevsner:

- ▶ Diet 1 is indicated during recovery for patients with ulcer disease, acute gastritis, gastritis with high or normal acidity;
- ▶ Diet 1A is indicated for acute ulcer disease, acute gastritis;
- ▶ Diet 1B is indicated for patients with chronic ulcer disease, chronic gastritis in the stage of remission;
- ▶ Diet 2 is indicated during recovery for patients with chronic gastritis with secretory insufficiency, colitis, enteritis;
- ▶ Diet 3 is indicated for chronic diseases of intestines, accompanied by constipation;

- ▶ Diet 4: intestinal diseases, accompanied by severe diarrhea;
- ▶ Diet 4A : colitis, fermentation insufficiency;
- ▶ Diet 4B: diseases of gastrointestinal tract in the stage of recovery;
- ▶ Diet 5: cholecystitis in stage of recovery, chronic hepatitis in remission, liver cirrhosis;
- ▶ Diet 5a: acute cholecystitis, acute hepatitis, acute cholelithiasis, liver cirrhosis;
- ▶ Diet 5P: chronic pancreatitis;
- ▶ Diet 6: urolithiasis, gout;
- ▶ Diet 7: chronic and acute nephritis, renal failure;
- ▶ Diet 7a: acute glomerulonephritis, acute renal failure;
- ▶ Diet 7b is indicated after diet 7a and is used in treatment of glomerulonephritis, chronic nephritis;
- ▶ Diet 7V: chronic kidney disease, nephrotic syndrome;
- ▶ Diet 8: treatment of obesity;
- ▶ Diet 9: diabetes;
- ▶ Diet 10: cardiovascular diseases; myocardial infarction, CHF (congestive heart failure);
- ▶ Diet 10C: atherosclerosis; arterial hypertension;
- ▶ Diet 11: tuberculosis; exhaustion after infectious diseases, surgery, injuries;
- ▶ Diet 12: diseases of the nervous system;
- ▶ Diet 13: acute infectious diseases;
- ▶ Diet 14: phosphaturia; problems with metabolism;
- ▶ Diet 15: can be used in various diseases that do not require special treatment.

Questions to control your knowledge

1. What are the rules for the patient during the administration of a drug?
 - Check the order name and the patient's name.
 - Use 2 identifiers.
 - Ask the patient to identify himself.
 - When available, use technology (for example, the barcode system).
2. What are the rules regarding the medicine during the administration of a medicine?
 - Check the medicine label.
 - Check the administration order
 - Check that the medicine is valid and does not contain precipitation
3. What are the dose rules when taking a medicine?
 - The dose should be prescribed by your doctor
 - Check the order.
 - Confirm the appropriateness of the dose using a current medicine reference.
 - If necessary, calculate the dose and another nurse should calculate the dose as well.
4. What are the rules regarding time during the administration of a drug?
 - Check the frequency of administration of the prescribed medicines.
 - Double check that you are giving the prescribed dose at the right time.
 - Confirm when the last dose was given.
5. What are the rules for the route during the administration of a drug?
 - Again, check the order and appropriateness of the route ordered.
 - Confirm that the patient can take or receive the medicine by the prescribed route.
6. Medicines are introduced into the body in several ways, which are these.
 - by mouth (orally) - tablets or suspensions;
 - placed under the tongue (sublingual) for fast action.
 - inserted in the rectum (rectal) or vagina (vaginal) - suppositories;
 - placed in the eyes (by eye) or in the ear (by eye) for local administration;
 - sprayed in the nose and absorbed through the nasal membranes (nasal);
 - breathed into the lungs, usually through the mouth (by inhalation) or mouth and nose (by nebulization);
 - applied to the skin (skin) for a local or body effect (systemic);
 - transmitted through the skin through a patch (transdermal) for a systemic effect;
7. What is the definition of injection?

- An injection is an infusion method of introducing fluid into the body, usually with a syringe.
 - The World Health Organization (WHO) defines a safe injection as one that does not harm the recipient, does not harm the health care worker, and does not harm the community.
8. Unnecessary injections must be eliminated because they can be dangerous, what unintended consequences can they lead to?
- spread hepatitis b virus, hepatitis c virus, HIV and other pathogens;
 - causes the destruction of nerves and other tissues, which can lead to paralysis;
 - cause abscesses and injuries.
9. What are the rules for administration of medicines by intramuscular injection?
- Always wash your hands with soap and dry them well;
 - Always prepare the needle and the appropriate injection dose;
 - Always clean the injection site with an alcohol swab.
 - Use a sterile syringe and sterile needle for each injection;
 - Open the package in front of patients to make sure that the syringe and needle have not been used before;
 - Always make sure that the intramuscular injection angle is 90 degrees;
 - If blood appears, remove and discard the needle, prepare and apply a new injection;
 - Inject, do not push, the needle and medicines slowly;
 - After use, immediately put used syringes and needles in a puncture-proof sharps container;
 - Keep a safety box where the injections are given;
 - Do not store used sharps in an open container where they can be reused or cause needle-stick injuries when dumped;
10. What are the stages of a continuous intravenous infusion?
- take the infusion solution.
 - remove the lid from the solution and process it with alcohol (the entrance of the infusion);
 - open and straighten the system on a sterile table;
 - close the roller clamp;
 - insert the needle in the bag or bottle;
 - put the bottle or bag in the tripod;
 - open the air dope to correlate the level in the drip chamber;
 - open the roller clamp and remove the air from the administration set.

11. What are the risks associated with injections?

- infection at site of injection;
- skin irritation at site of injection;
- tingling and/or numbness;
- allergy reactions;
- bleeding;
- nerve or blood vessel damage;
- pain at site of injection.

12. What are the rules regarding documentation during the administration of a medicine?

- Document administration AFTER giving the ordered medication.
- Chart the time, route, and any other specific information as necessary. For example, the site of an injection or any laboratory value or vital sign that needed to be checked before giving the drug.

13. What are the rules for response when taking a medicine?

- Make sure that the drug led to the desired effect. If an antihypertensive was given, has his/her blood pressure improved? Does the patient verbalize improvement in depression while on an antidepressant?
- Be sure to document your monitoring of the patient and any other nursing interventions that are applicable.

14. List and indicate for which pathologies medical diets are classified according to Pevzner:

- Diet 1 is indicated during recovery for patients with ulcer disease, acute gastritis, gastritis with high or normal acidity;
- Diet 1A is indicated for acute ulcer disease, acute gastritis;
- Diet 1B is indicated for patients with chronic ulcer disease, chronic gastritis in the stage of remission;
- Diet 2 is indicated during recovery for patients with chronic gastritis with secretory insufficiency, colitis, enteritis;
- Diet 3 is indicated for chronic diseases of intestines, accompanied by constipation;
- Diet 4: intestinal diseases, accompanied by severe diarrhea;
- Diet 4A : colitis, fermentation insufficiency;
- Diet 4B: diseases of gastrointestinal tract in the stage of recovery;
- Diet 5: cholecystitis in stage of recovery, chronic hepatitis in remission, liver cirrhosis;

- Diet 5a: acute cholecystitis, acute hepatitis, acute cholelithiasis, liver cirrhosis;
- Diet 5P: chronic pancreatitis;
- Diet 6: urolithiasis, gout;
- Diet 7: chronic and acute nephritis, renal failure;
- Diet 7a: acute glomerulonephritis, acute renal failure;
- Diet 7b is indicated after diet 7a and is used in treatment of glomerulonephritis, chronic nephritis;
- Diet 7V: chronic kidney disease, nephrotic syndrome;
- Diet 8: treatment of obesity;
- Diet 9: diabetes;
- Diet 10: cardiovascular diseases; myocardial infarction, CHF (congestive heart failure);
- Diet 10C: atherosclerosis; arterial hypertension;
- Diet 11: tuberculosis; exhaustion after infectious diseases, surgery, injuries;
- Diet 12: diseases of the nervous system;
- Diet 13: acute infectious diseases;
- Diet 14: phosphaturia; problems with metabolism;
- Diet 15: can be used in various diseases that do not require special treatment.

TEST

1. What are the rules for the patient during the administration of a drug?
 - a. * Check the patient name and patient name.
 - b. * Use 2 identifiers.
 - c. * Ask the patient to identify himself.
 - d. * When available, use technology (for example, the barcode system).
 - e. Use 4 identifiers.

2. What are the rules regarding the medicine during the administration of a medicine?

- a. * Check the label of the medicine.
- b. * Check the administration order.
- c. * Check that the medicine is valid and does not contain precipitation.
- d. Check the manufacturer.
- e. Check the import or export data of the medicine.

3. What are the dose rules when taking a medicine?

- a. * The dose should be prescribed by your doctor.
- b. * Check the order.
- c. * Confirm the adequacy of the dose using a current drug reference.
- d. * If necessary, calculate the dose and another nurse should calculate the dose as well.
- e. Confirm the appropriateness of the dose, using the advice of a colleague.

4. What are the rules regarding time during the administration of a drug?

- a. * Check the frequency of administration of prescribed medications.
- b. * Double check that you deliver the prescribed dose at the correct time.
- c. * Confirm when the last dose was given.
- d. Confirm when the average dose has been given.
- e. Check once that you are giving the ordered dose at the right time.

5. What are the rules for the route during the administration of a drug?

- a. * Check the order and proper character of the ordered route.
- b. * Confirm that the patient can take or receive the medicine by the prescribed route.
- c. Confirm when the average dose has been given.
- d. Check once that you are giving the ordered dose at the right time.
- e. Check the manufacturer.

6. Medicines are introduced into the body in several ways, which are these.

- a. * by mouth (orally) - tablets or suspensions.
- b. * inserted in the rectum (rectal) or vagina (vaginal) - suppositories.
- c. * placed in the eyes (ocular route) or ear (optically) for local administration.
- d. * sprayed into the nose and absorbed through the nasal membranes (nasal).
- e. inserted in the rectum (rectal) or vagina (vaginal) - tablets or suspensions.

7. Medicines are introduced into the body through several pathways, which are these.

- a. * breathed into the lungs, usually through the mouth (by inhalation) or mouth and nose (by nebulization).
- b. * placed under the tongue (sublingual) for fast action.
- c. * applied to the skin (skin) for a local or bodily effect (systemic).
- d. * transmitted through the skin through a (transdermal) patch for a systemic effect.
- e. inserted in the rectum (rectal) or vagina (vaginal) - tablets or suspensions.

8. What is the definition of injection?

- a. * An injection is an infusion method of introducing fluid into the body, usually with a syringe.
- b. An injection is an infusion method of introducing fluid into the digestive system.
- c. An injection is a method of diagnosis, usually with a syringe.
- d. An injection is a method of protection against reactions from internal organs.
- e. No answer is correct.

9. Unnecessary injections must be eliminated because they can be dangerous, what unintended consequences can they lead to?

- a. * They can spread hepatitis b virus, hepatitis c virus, HIV and other pathogens.
- b. * May cause damage to nerves and other tissues, which can lead to paralysis.
- c. * May cause abscesses and injuries.

- d. They can spread the flu virus.
- e. May cause autoimmune reactions.

10. What are the rules for administration of medicines by intramuscular injection?

- a. * Always wash your hands with soap and dry them well.
- b. * Always prepare the needle and the appropriate injection dose.
- c. * Always clean the injection site with an alcohol swab.
- d. Use a syringe and needle for various injections;
- e. * Open the package in front of patients to make sure that the syringe and needle have not been used before;

11. What are the rules for drug administration by intramuscular injection?

- a. * Always make sure the intramuscular injection angle is 90 degrees.
- b. * If blood appears, remove and discard the needle, prepare and apply a new injection.
- c. * Inject, do not push, the needle and drugs slowly; after use, immediately place the used syringes and needles in a sharp object container
- d. Do not keep a safe in which injections are placed.
- e. * Do not store used sharps in an open container where they can be reused or cause needle-stick injuries when dumped.

12. What are the stages of a continuous intravenous infusion?

- a. * take the solution for infusion; remove the lid from the solution and process it with alcohol (the entrance of the infusion);
- b. open and straighten the system on a living room surface.
- c. * close the roller clamp; insert the needle in the bag or bottle.
- d. * put the bottle or bag in the tripod; open the air drop to correlate the level in the drip chamber.
- e. * open the roller clamp and remove the air from the administration set.

13.What is the risk associated with injections?

- a. * injection site infection, skin irritation at the injection site.
- b. * tingling and / or numbness.
- c. autoimmune reactions.
- d. * bleeding.
- e. * damage to the nerve or blood vessels.

14.What are the rules regarding documentation during the administration of a medicine?

- a. * Document administration AFTER giving the ordered medication.
- b. * Chart the time, route, and any other specific information as necessary.
- c. Administration of documents BEFORE granting the ordered medicines.
- d. Table the time, route and any other specific information, before and after the procedure.
- e. All documents are completed on the day of discharge.

15.What are the rules for response when taking a medicine?

- a. * Make sure that the medicine has led to the desired effect.
- b. * Be sure to document your monitoring of the patient and any other nursing interventions that are applicable.
- c. Table the time, route and any other specific information, before and after the procedure.
- d. All documents are completed on the day of discharge.
- e. Administration of documents BEFORE granting the ordered medicines.

16.List and indicate for which pathologies medical diets are classified according to Pevzner:

- a. * Diet 1 is indicated during recovery for patients with ulcer disease, acute gastritis, gastritis with high or normal acidity.
- b. * Diet 1A is indicated for ulcer disease, acute gastritis.

- c. * Diet 1B is indicated for patients with chronic ulcer disease, chronic gastritis in the remission stage.
- d. * Diet 2 is indicated during recovery in patients with chronic gastritis with secretory insufficiency, colitis, enteritis.
- e. Diet 3 is indicated during recovery in patients with chronic gastritis with secretory insufficiency, colitis, enteritis.

17. List and indicate for which pathologies medical diets are classified according to Pevzner:

- a. * Diet 4: intestinal diseases, accompanied by severe diarrhea.
- b. Diet 4A: cholecystitis in the recovery stage, chronic hepatitis in remission, liver cirrhosis.
- c. * Diet 4B: diseases of the gastrointestinal tract in the recovery stage.
- d. * Diet 5: cholecystitis in the recovery stage, chronic hepatitis in remission, cirrhosis of the liver.
- e. * Diet 5a: acute cholecystitis, acute hepatitis, acute cholelithiasis, cirrhosis of the liver.

18. List and indicate for which pathologies medical diets are classified according to Pevzner:

- a. * 5P diet: chronic pancreatitis.
- b. Diet 6: chronic pancreatitis.
- c. * Diet 7: chronic and acute nephritis, renal failure.
- d. * Diet 7a: acute glomerulonephritis, acute renal failure.
- e. * Diet 7b is indicated after diet 7a and is used in the treatment of glomerulonephritis, chronic nephritis.

19. List and indicate for which pathologies medical diets are classified according to Pevzner:

- a. * 7V diet: chronic kidney disease, nephrotic syndrome.
- b) Diet 8: diabetes.
- c. Diet 9: treatment of obesity.

d. * Diet 10: cardiovascular disease; myocardial infarction, CHF (congestive heart failure).

e. * Diet 10C: atherosclerosis; hypertension.

20. List and indicate for which pathologies medical diets are classified according to Pevzner:

a. * Diet 11: tuberculosis; exhaustion after infectious diseases, surgery, injuries.

b. Diet 12: acute infectious diseases.

c. Diet 13: diseases of the nervous system.

d. * Diet 14: phosphating; metabolism problems.

e. * Diet 15: can be used in various diseases that do not require special treatment.