

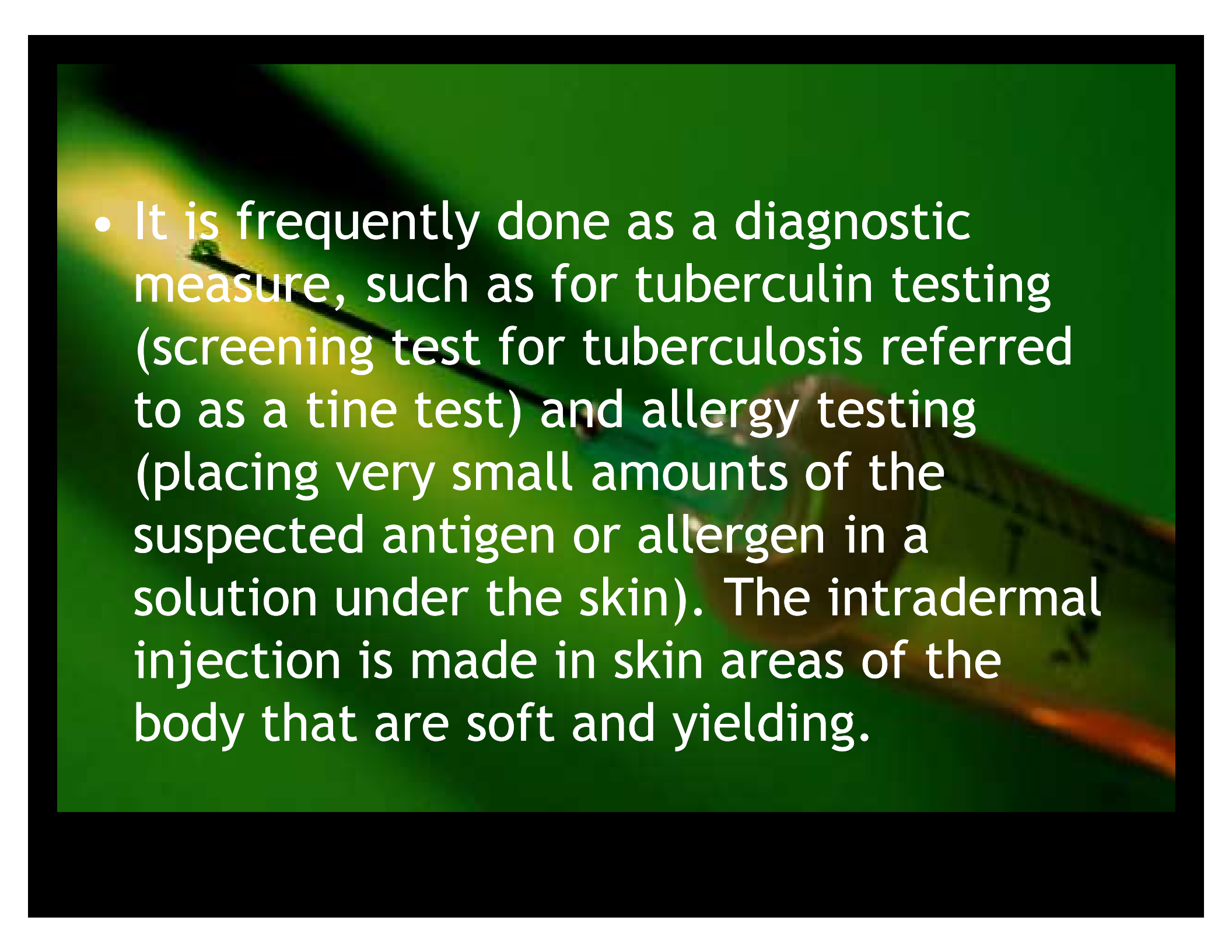


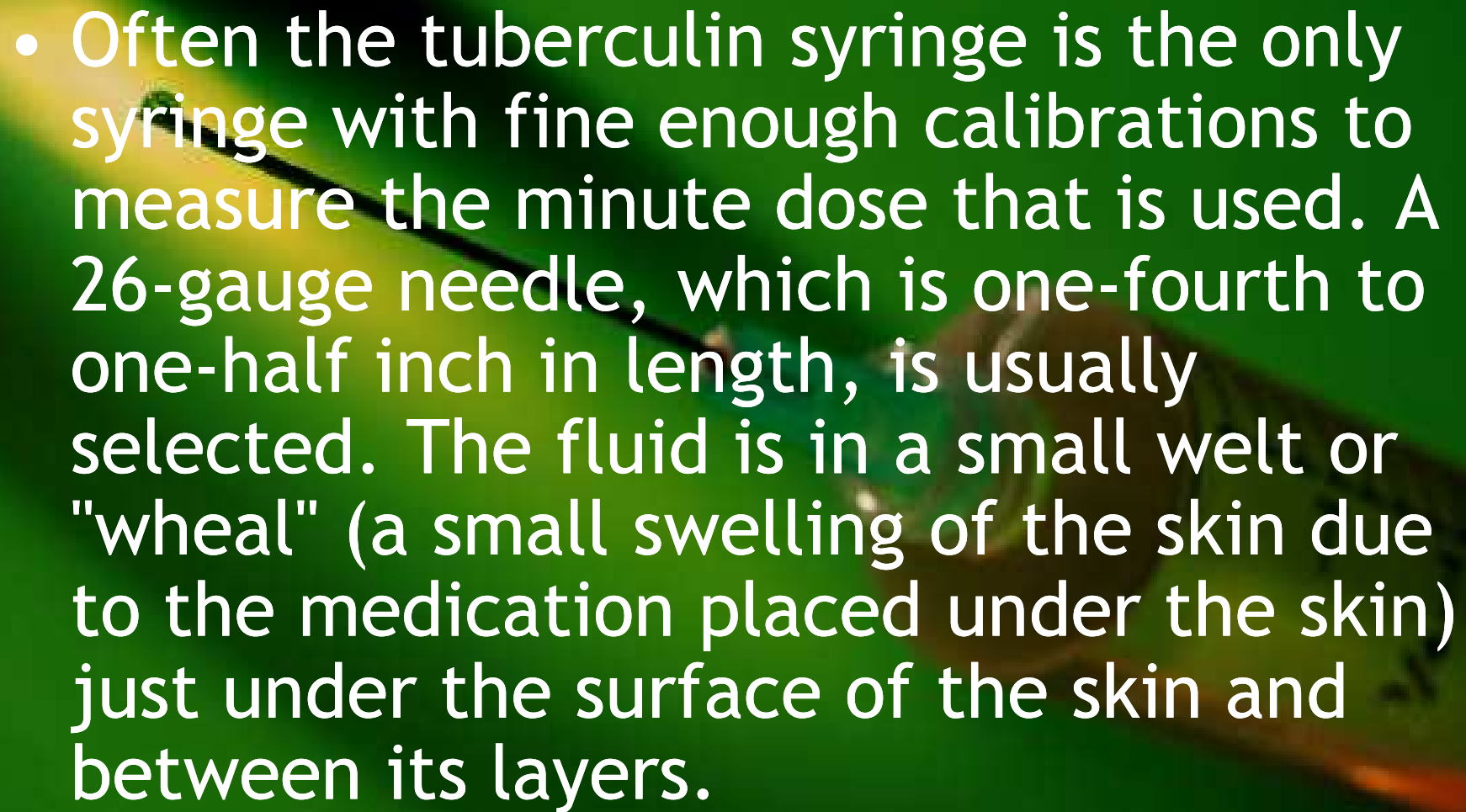
Intradermal Administration

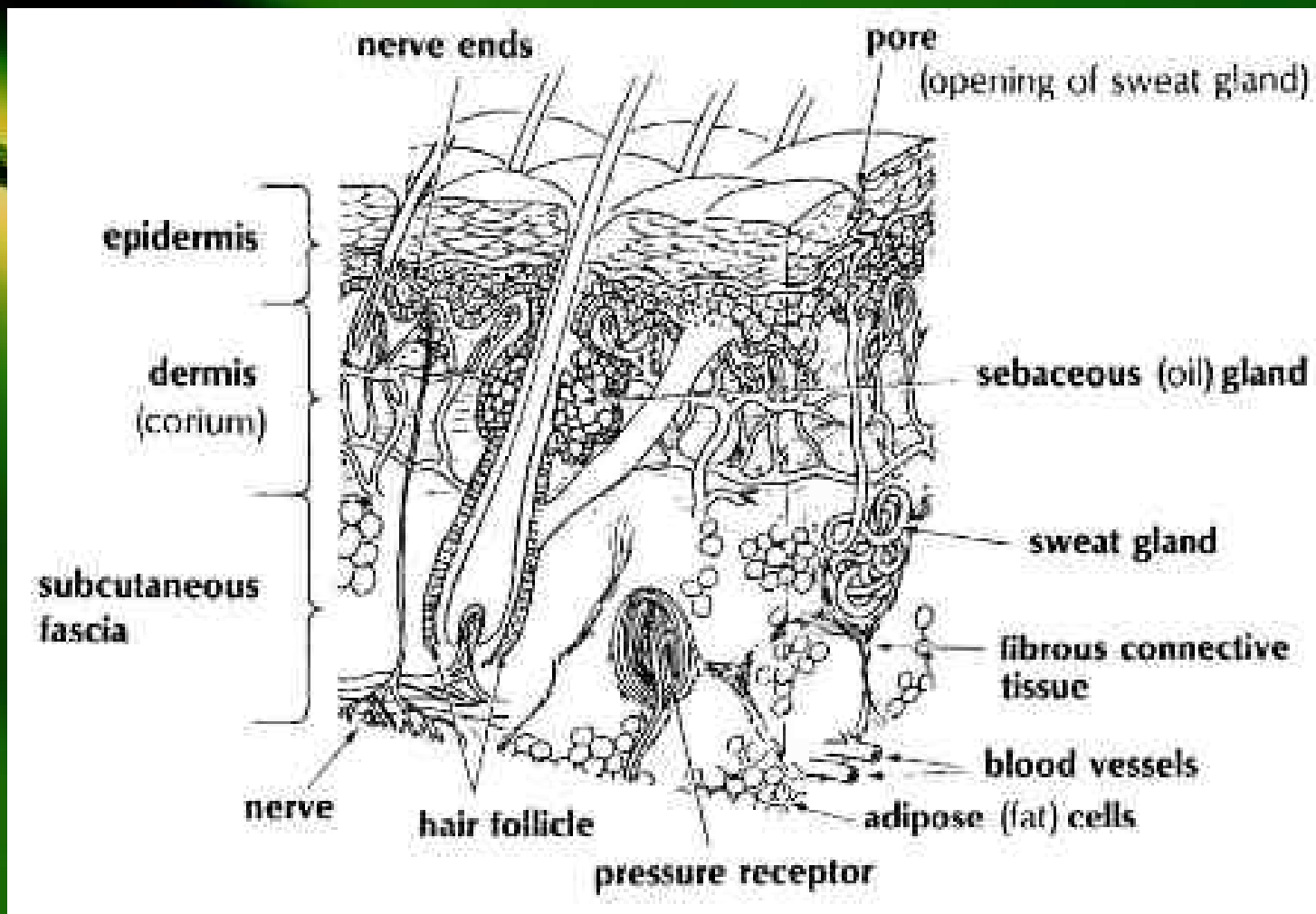


Intradermal Administration

- An intradermal (ID) injection is the injection of a small amount of fluid into the dermal layer of the skin.

- 
- It is frequently done as a diagnostic measure, such as for tuberculin testing (screening test for tuberculosis referred to as a tine test) and allergy testing (placing very small amounts of the suspected antigen or allergen in a solution under the skin). The intradermal injection is made in skin areas of the body that are soft and yielding.

- 
- Often the tuberculin syringe is the only syringe with fine enough calibrations to measure the minute dose that is used. A 26-gauge needle, which is one-fourth to one-half inch in length, is usually selected. The fluid is in a small welt or "wheal" (a small swelling of the skin due to the medication placed under the skin) just under the surface of the skin and between its layers.

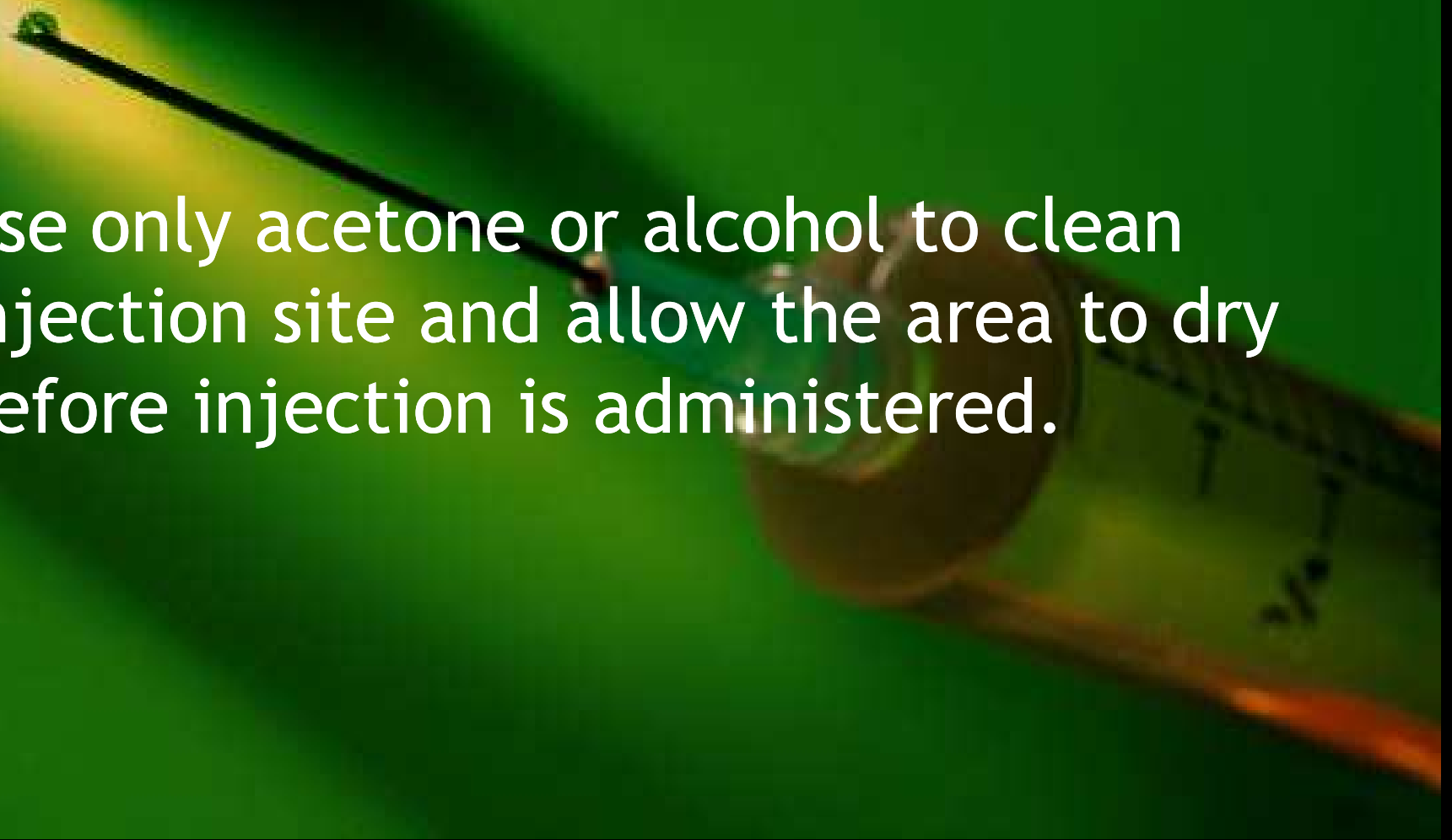




**PROCEDURE FOR
ADMINISTERING AN
INTRADERMAL INJECTION**

PROCEDURE FOR ADMINISTERING AN INTRADERMAL INJECTION

- Use only acetone or alcohol to clean injection site and allow the area to dry before injection is administered.



PROCEDURE FOR ADMINISTERING AN INTRADERMAL INJECTION

- **Select Injection Site and Prepare Patient.**
 - **Selecting site.** Usually palmer (inner) forearm or sub scapular region of the back is selected. The site selected should be an easily obtainable area and relatively free from being rubbed by clothing.
 - **Position patient.** To position the patient, proceed as follows:
 - Place arm in a relaxed position, elbow flexed.
 - Place palm up, exposing palmer or inner arm area.
 - Prepare Injection Site.
 - Remove Needle Guard. Pull the guard straight off.
 - Stabilize Injection Site.

PROCEDURE FOR ADMINISTERING AN INTRADERMAL INJECTION

- Using your non dominant thumb, apply downward pressure, directly below and outside the prepared injection site. (Do not draw the skin back or move the skin to the side because the skin will return to its normal position when pressure is released and will cause the needle bevel to either go deeper into the skin or to leave the skin, depending upon which direction the skin moves.)
- Hold the skin taut until the needle bevel has been inserted between the skin layers

PROCEDURE FOR ADMINISTERING AN INTRADERMAL INJECTION

- Insert Needle.
- Using your dominant hand, hold syringe, bevel up, with fingers and thumb resting on the sides of the barrel. If you insert the needle at a 20 degree angle, lower it at once to 15 degrees. Do not place thumb or fingers under syringe because this will cause the angle of insertion to exceed 15 degrees causing the needle to insert beyond the dermis.
- Insert needle, bevel up, just under the skin at an angle of 15 to 20 degrees until the bevel is covered (see figure 2-11). Continue stabilizing thumb pressure. You should feel some resistance. If the needle tip moves freely, you have inserted the needle too deeply. At this point, withdraw needle slightly and check again for resistance.

PROCEDURE FOR ADMINISTERING AN INTRADERMAL INJECTION

- **Inject Medication.** It is not necessary to aspirate the syringe since no large vessels are commonly found in the superficial layer of the skin. Inject the medication as follows:
 - Continue holding syringe with same hand.
 - Release skin tension with other hand.
 - With free hand, push plunger slowly forward until the medication is injected and a wheal appears at the site of the injection. The appearance of a wheal indicates that the medication has entered the area between the intradermal tissues. If a wheal does not appear, withdraw the needle and repeat the procedure in another site.
- **Withdraw Needle.** To withdraw the needle, quickly withdraw it at the same angle that it was inserted.
- **Cover Injection Site.** Without applying pressure, quickly cover injection site with a dry sterile small gauze.
- **Perform Postinjection Patient Care.**



Intramuscular administration

Intramuscular administration

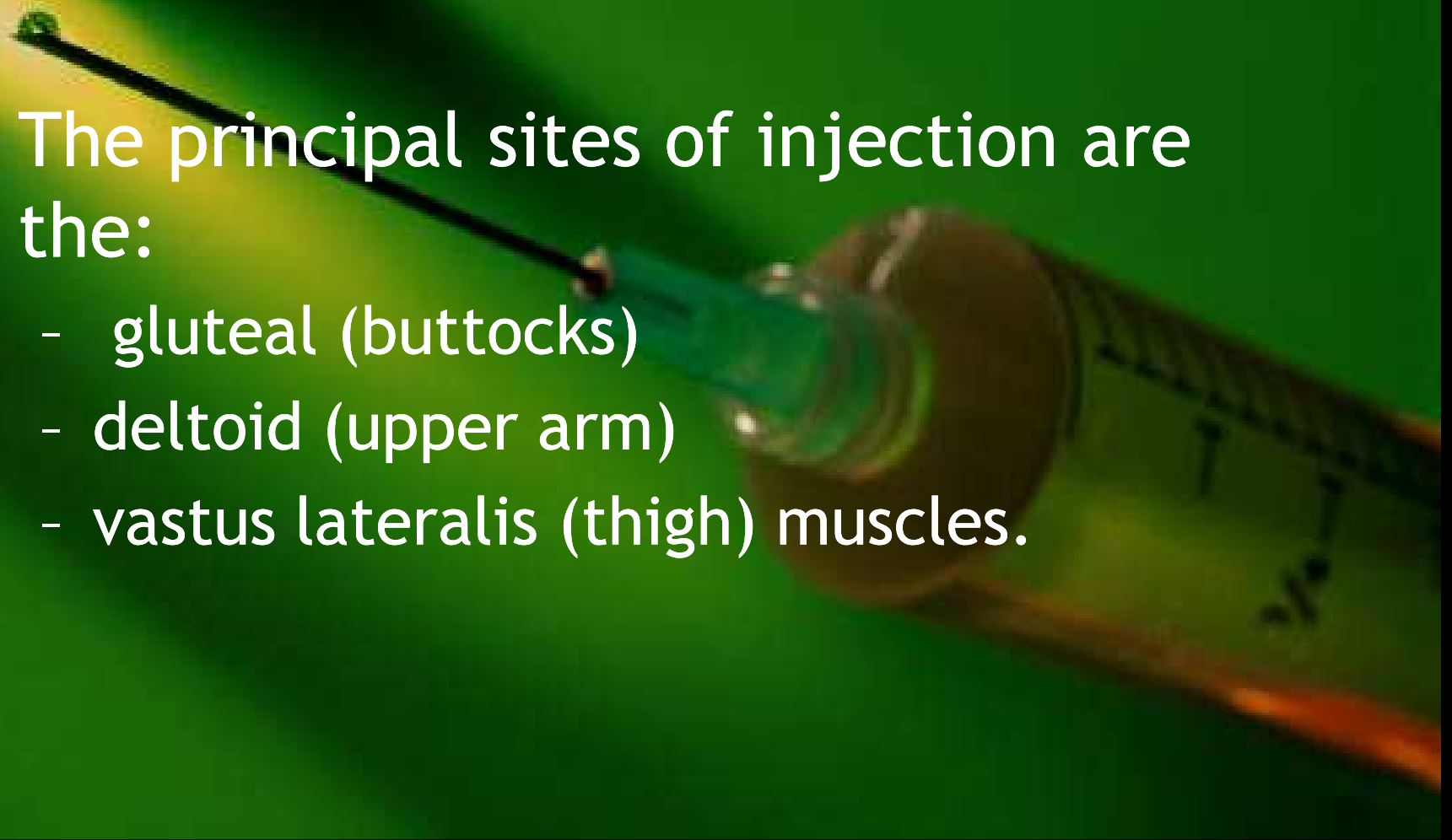
- This route of administration is generally considered less hazardous and easier to use than the intravenous route. The onset of action is typically longer than with intravenous administration, but shorter than with subcutaneous administration. Patients generally experience more pain via intramuscular administration compared to intravenous administration.

Intramuscular administration

- Intramuscular (IM) injections are made into the striated muscle fibers that are under the subcutaneous layer of the skin. Thus needles used for the injections are generally 1 inch to 1.5 inches long and are generally 19 to 22 gauge in size.

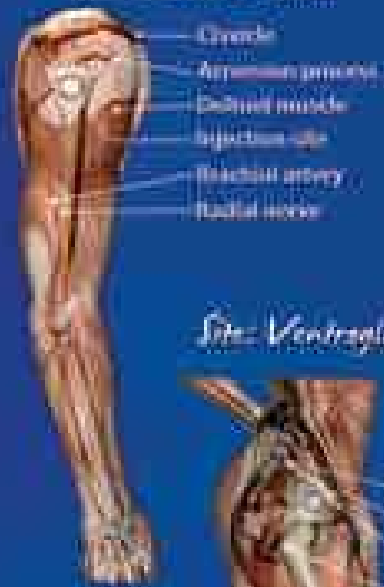
Intramuscular administration

- The principal sites of injection are the:
 - gluteal (buttocks)
 - deltoid (upper arm)
 - vastus lateralis (thigh) muscles.



Intramuscular Injection Sites

Site: *Deltoid Muscle*



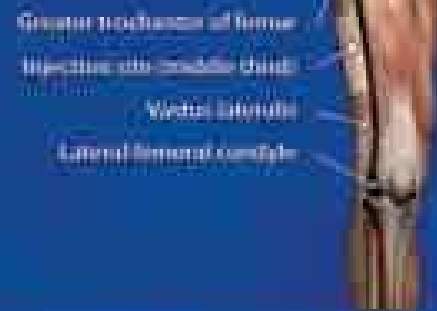
Site: *Dorsogluteal Muscle*



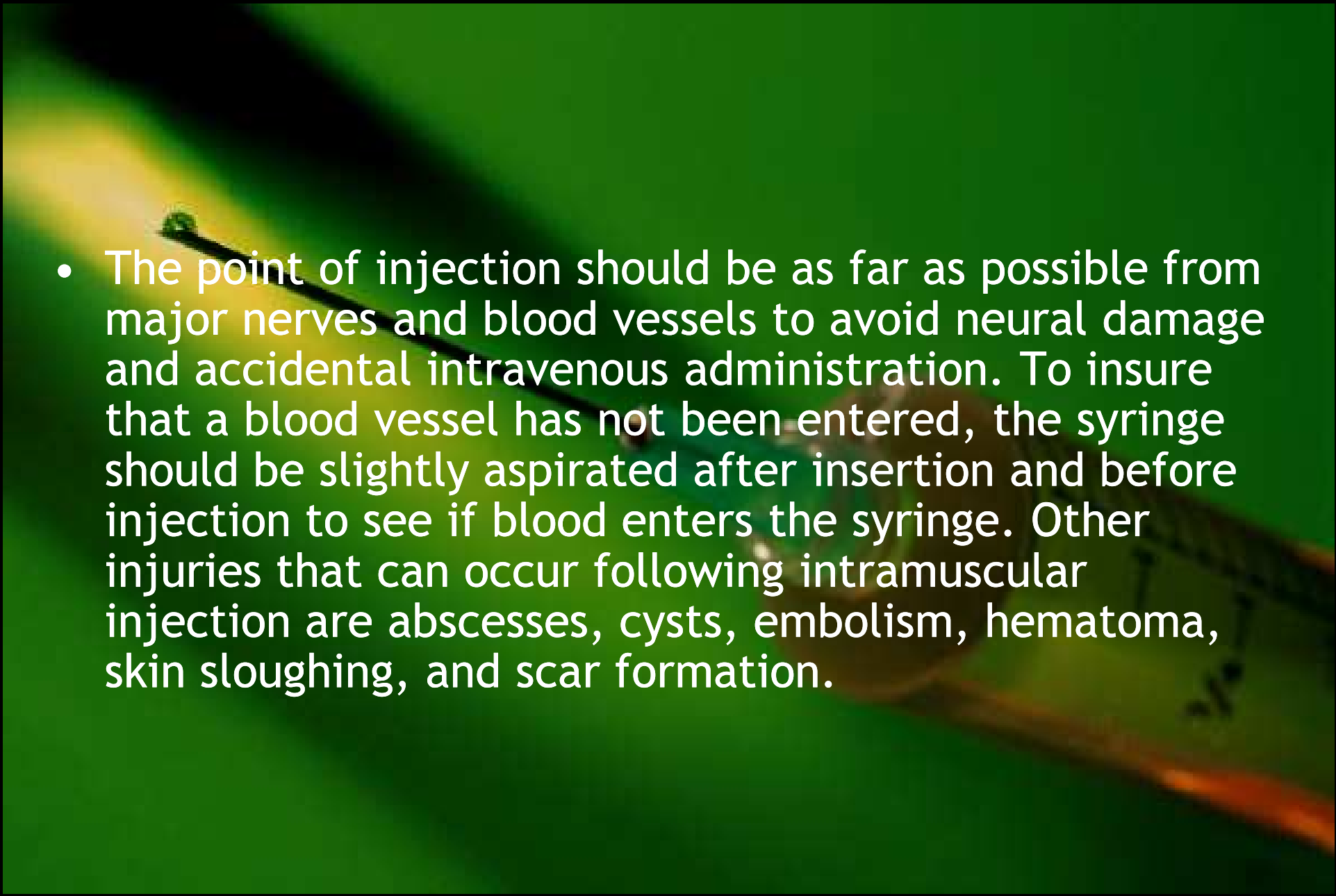
Site: *Ventrogluteal Muscle*

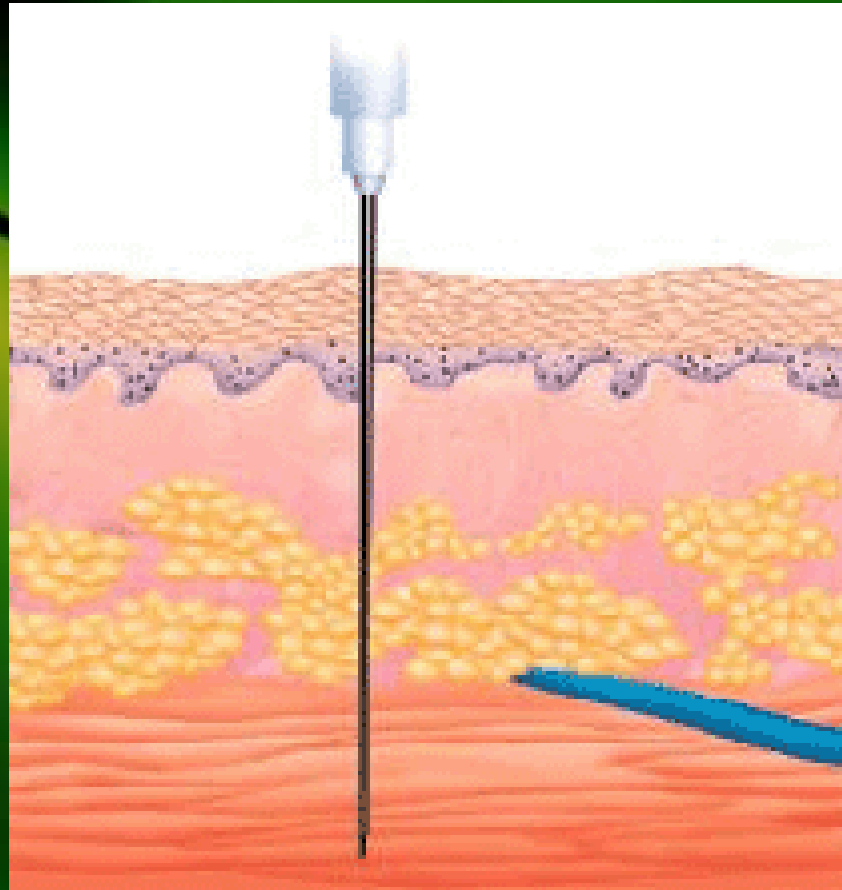


Site: *Vastus Lateralis Muscle*



- When administering intramuscular injections into the gluteus maximus, the size of the needle must be chosen based on the patient's deposits of fat. If a needle is used that is too short to pass all the way through the fat into the muscle, then the injection will be made into the fat. Women tend to have more fat in this region than men, so the possibility of a intralipomatous injection is significant. It is estimated that few women and about 15% of men actually receive the intended intramuscular injection because an improper needle length was used.

- 
- The point of injection should be as far as possible from major nerves and blood vessels to avoid neural damage and accidental intravenous administration. To insure that a blood vessel has not been entered, the syringe should be slightly aspirated after insertion and before injection to see if blood enters the syringe. Other injuries that can occur following intramuscular injection are abscesses, cysts, embolism, hematoma, skin sloughing, and scar formation.



Complications and contraindications

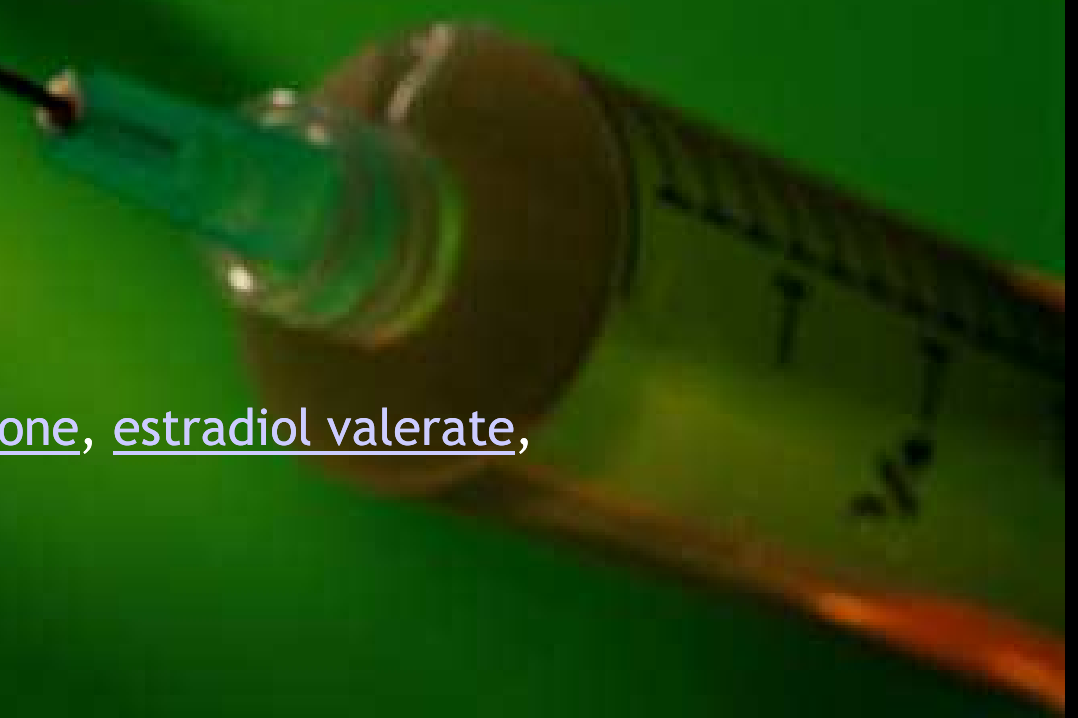
- When the gluteal muscles are used, injections should be made on the upper, outer quadrant of the buttock to avoid damaging the sciatic nerve. Injection fibrosis is a complication that may occur if the injections are delivered with great frequency or with improper technique.

Complications and contraindications

- Thrombocytopenia (low platelet counts) and coagulopathy (bleeding tendency) are contraindications for intramuscular injections, as they may lead to hematomas.

- Examples of medications that are sometimes administered intramuscularly are:

- codeine
- morphine
- methotrexate
- metoclopramide
- olanzapine
- Streptomycin
- diazepam
- prednisone
- penicillin
- Interferon beta-1a
- sex hormones, such as testosterone, estradiol valerate,
and Depo Provera
- dimercaprol
- ketamine
- lupron



Advantages



- Simple and accessible
- No indwelling medical devices required, although devices exist for intra-muscular cannulation.
- Required for certain types of drugs, e.g. immunoglobulins, vaccines

Disadvantages

- Absorption dependent on blood flow. May be danger of sudden absorption of drugs, e.g. if large amounts of opioids administered to a 'shut-down' patient, sudden overdose may result when perfusion to muscle improves.
- Slower absorption than intravenous, i.e. not good for immediate analgesia. This may be an advantage, e.g. when adrenaline is used in anaphylaxis as administration of 0.5mg of adrenaline intravenously could result in tachyarrhythmias.
- Painful.
- Limited volume.
- Nerve damage, if incorrectly performed (often confusion over meaning of upper, outer quadrant).
- Potential for subcutaneous injection, especially in overweight patients

Disadvantages

- Sterile or infected abscesses reported. May be related to inadvertent subcutaneous injection. Rare, but disastrous





subcutaneous injection

subcutaneous injection



- is administered as a bolus into the sub cutis the layer of skin directly below the dermis and epidermis, collectively referred to as the cutis.
- Subcutaneous injections are highly effective in administering vaccines and such medications as insulin, morphine, diacetylmorphine or goserelin.
- A subcutaneous injection is a method of drug administration. Up to 2 ml of a drug solution can be injected directly beneath the skin. The drug becomes effective within 20 minutes.



PURPOSE

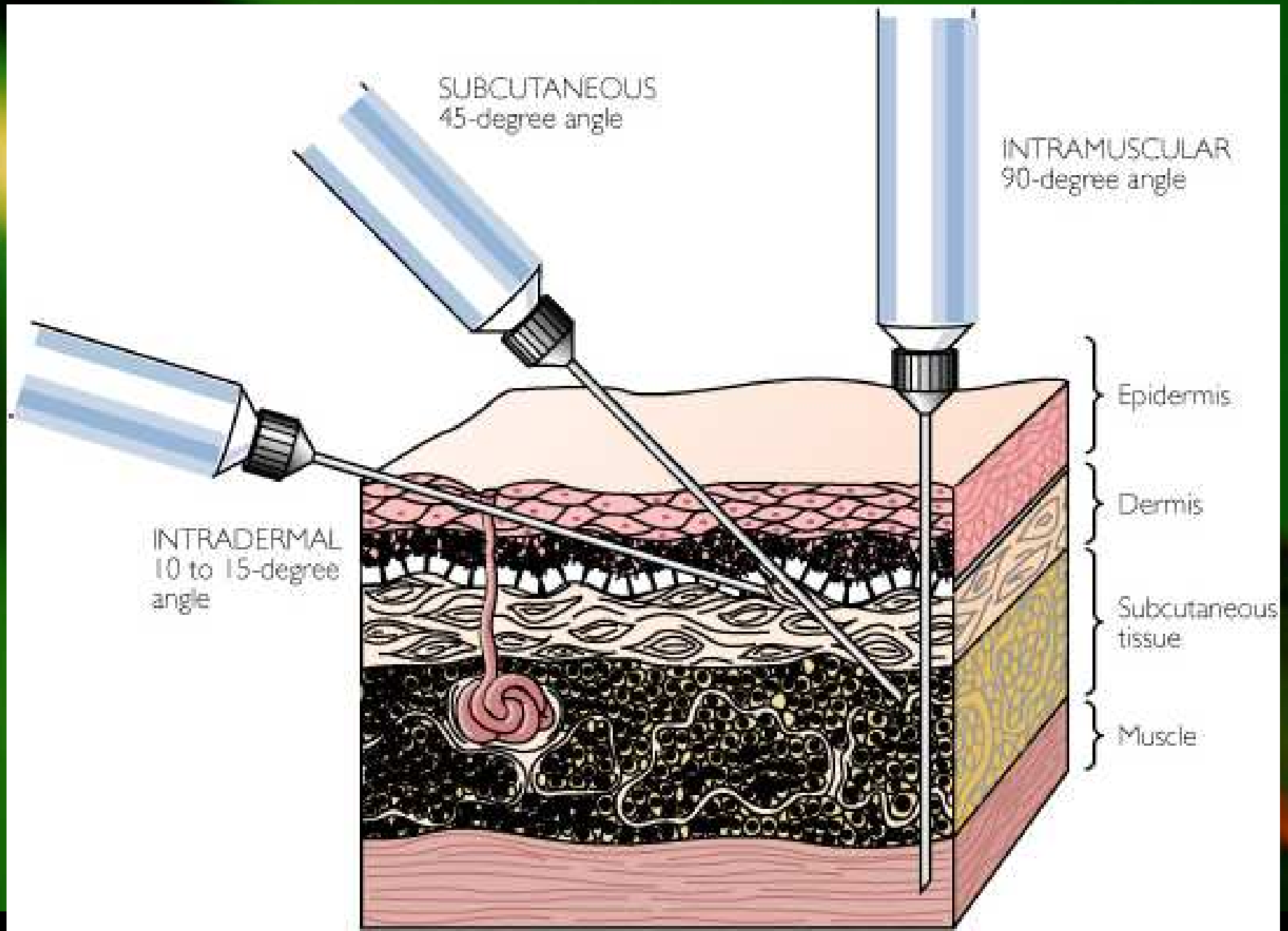
- Subcutaneous injection is the method used to administer drugs when a small amount of fluid is to be injected, the patient is unable to take the drug orally, or the drug is destroyed by intestinal secretions.

PRECAUTION

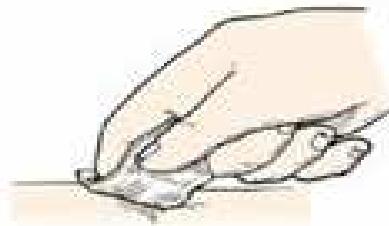


- If the drug to be administered is harmful to superficial tissues, it should be administered intramuscularly or intravenously. It is useful to remember the following when administering any medication:

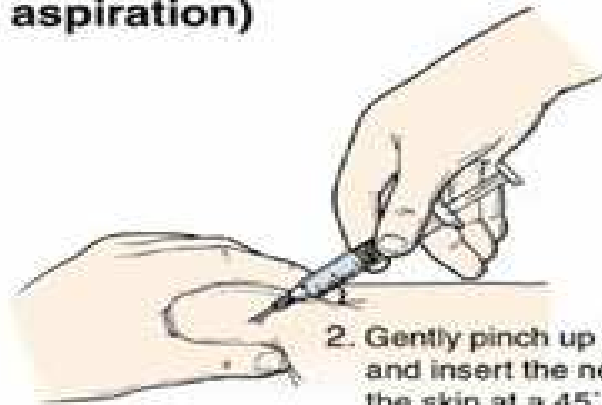
- the right patient
- the right medicine
- the right route
- the right dose
- the right site
- the right time.



How to Give a Subcutaneous Injection (with aspiration)



1. Use an alcohol swab to clean the skin where you will give yourself the shot.



2. Gently pinch up the skin and insert the needle into the skin at a 45° angle.



3. After you insert the needle completely, release your grasp of the skin.



4. Gently pull back on the plunger of the syringe to check for blood. (If blood appears when you pull back on the plunger, withdraw the needle and syringe and gently press the alcohol swab on the injection site. Start over with a fresh needle.)



5. If no blood appears, inject all of the solution by gently and steadily pushing down the plunger.



6. Withdraw the needle and syringe and press an alcohol swab on the spot where the shot was given.



Intravenous therapy

Intravenous therapy

- Intravenous therapy or IV therapy is the giving of liquid substances directly into a vein.
- The word intravenous simply means "within a vein".
- Therapies administered intravenously are often called specialty pharmaceuticals.
- It is commonly referred to as a drip because many systems of administration employ a drip chamber, which prevents air entering the blood stream (air embolism) and allows an estimate of flow rate.
- Compared with other routes of administration, the intravenous route is the fastest way to deliver fluids and medications throughout the body.
- Some medications, as well as blood transfusions and lethal injections, can only be given intravenously.



Intravenous access devices

Intravenous access devices

- **Hypodermic needle**

- The most convenient site is often the arm, especially the veins on the back of the hand, or the median cubital vein at the elbow, but any identifiable vein can be used.

- Often it is necessary to use a tourniquet which restricts the venous drainage of the limb and makes the vein bulge.

Intravenous access devices

- **Hypodermic needle**

- Once the needle is in place, it is common to draw back slightly on the syringe to aspirate blood, thus verifying that the needle is really in a vein.
- The tourniquet should be removed before injecting to prevent extravasation of the medication.

Intravenous access devices

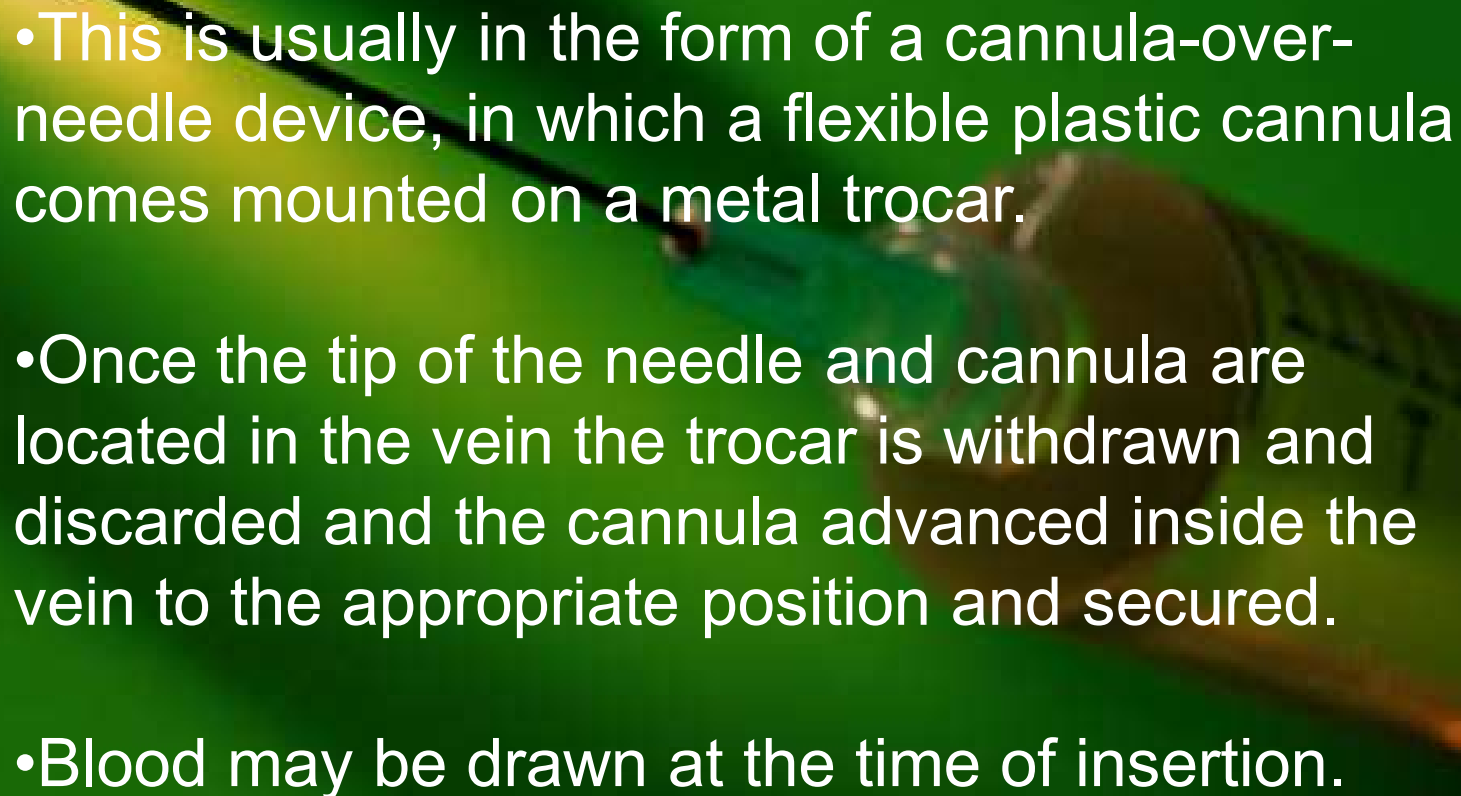
- **Peripheral Cannula**

- **This is the most common intravenous access method in both hospitals and pre-hospital services.**

- **A peripheral IV line consists of a short catheter (a few centimeters long) inserted through the skin into a peripheral vein (any vein that is not inside the chest or abdomen).**

Intravenous access devices

•Peripheral Cannula

- This is usually in the form of a cannula-over-needle device, in which a flexible plastic cannula comes mounted on a metal trocar.
 - Once the tip of the needle and cannula are located in the vein the trocar is withdrawn and discarded and the cannula advanced inside the vein to the appropriate position and secured.
 - Blood may be drawn at the time of insertion.
- 

Intravenous access devices

- Central IV lines

- Central IV lines flow through a catheter with its tip within a large vein, usually the superior vena cava or inferior vena cava, or within the right atrium of the heart. This has several advantages over a peripheral IV:

- It can deliver fluids and medications that would be overly irritating to peripheral veins because of their concentration or chemical composition. These include some chemotherapy drugs and total parenteral nutrition.

Intravenous access devices

• Central IV lines

- Medications reach the heart immediately, and are quickly distributed to the rest of the body.
- There is room for multiple parallel compartments (lumen) within the catheter, so that multiple medications can be delivered at once even if they would not be chemically compatible within a single tube.
- Caregivers can measure central venous pressure and other physiological variables through the line.

Intravenous access devices

- **Peripherally inserted central catheter**

- PICC lines are used when intravenous access is required over a prolonged period of time or when the material to be infused would cause quick damage and early failure of a peripheral IV and when a conventional central line may be too dangerous to attempt.

Intravenous access devices



- **Peripherally inserted central catheter**

- Typical uses for a PICC include:
 - long chemotherapy regimens
 - extended antibiotic therapy
 - total parenteral nutrition.

Intravenous access devices

• Central venous lines

- There are several types of catheters that take a more direct route into central veins. These are collectively called *central venous lines*.

- In the simplest type of central venous access, a catheter is inserted into a subclavian, internal jugular, or (less commonly) a femoral vein and advanced toward the heart until it reaches the superior vena cava or right atrium.

Intravenous access devices

• Central venous lines

- Because all of these veins are larger than peripheral veins there is greater blood flow past the tip of the catheter meaning irritant drugs are more rapidly diluted with less chance of extravasation.
- It is commonly believed that fluid can be pushed faster through a central venous catheter but as they are often divided into multiple lumens then the internal diameter is less than that of a large-bore peripheral cannula.

Intravenous access devices



- **Central venous lines**

- They are also longer, which as reflected in Poiseuille's law, requires higher pressure to achieve the same flow, all other variables being equal.

Intravenous access devices

•Tunnelled Lines

- Another type of central line, called a **Hickman line** or **Broviac catheter**, is inserted into the target vein and then "**tunneled**" under the skin to emerge a short distance away.
- This reduces the risk of infection, since bacteria from the skin surface are not able to travel directly into the vein; these catheters are also made of materials that resist infection and clotting.

Intravenous access devices

• Implantable ports

- A port (often referred to by brand names such as Port-a-Cath or MediPort) is a central venous line that does not have an external connector; instead, it has a small reservoir that is covered with silicone rubber and is implanted under the skin.
- Medication is administered intermittently by placing a small needle through the skin, piercing the silicone, into the reservoir. When the needle is withdrawn the reservoir cover reseals itself. The cover can accept hundreds of needle sticks during its lifetime.



Forms of intravenous therapy

Forms of intravenous therapy

- Intravenous drip

- An intravenous drip is the continuous infusion of fluids, with or without medications, through an IV access device. This may be to correct dehydration or an electrolyte imbalance, to deliver medications, or for blood transfusion.

Forms of intravenous therapy

- IV fluids

- There are two types of fluids that are used for intravenous drips; crystalloids and colloids.

- Crystalloids are aqueous solutions of mineral salts or other water-soluble molecules.

- Colloids contain larger insoluble molecules, such as gelatin; blood itself is a colloid.

Forms of intravenous therapy

- IV fluids

- The most commonly used crystalloid fluid is *normal saline*, a solution of sodium chloride at 0.9% concentration, which is close to the concentration in the blood (isotonic).
- *Ringer's lactate* or *Ringer's acetate* is another isotonic solution often used for large-volume fluid replacement.
- A solution of 5% dextrose in water, sometimes called D5W, is often used instead if the patient is at risk for having low blood sugar or high sodium.

Forms of intravenous therapy



- IV fluids

- The choice of fluids may also depend on the chemical properties of the medications being given.

- Intravenous fluids must always be sterile.

Forms of intravenous therapy

Composition of common crystalloid solutions

Solution	Other Name	[Na ⁺](mmol/L)	[Cl ⁻](mmol/L)	[Glucose](mmol/L)	[Glucose](mg/dl)
D5W	5% Dextrose	0	0	278	5000
	3.3%				
2/3D & 1/3S	Dextrose / 0.3% saline	51	51	185	3333
Half-normal saline	0.45% NaCl	77	77	0	0
<u>Normal saline</u>	0.9% NaCl	154	154	0	0
Ringer's lactate	Lactated Ringer 5% Dextrose,	130	109	0	0
D5NS	Normal Saline	154	154	278	5000

Forms of intravenous therapy

Ringer's lactate also has 28 mmol/L lactate, 4 mmol/L K^+ and 1.5 mmol/L Ca^{2+} . Ringer's acetate also has 28 mmol/L acetate, 4 mmol/L K^+ and 1.5 mmol/L Ca^{2+} .

Effect of adding one litre

Solution	Change in ECF	Change in ICF
D5W	333 mL	667 mL
2/3D & 1/3S	556 mL	444 mL
Half-normal saline	667 mL	333 mL
Normal saline	1000 mL	0 mL
Ringer's lactate	900 mL	100 mL



Risks of intravenous therapy

Risks of intravenous therapy

- Infection

- Any break in the skin carries a risk of infection. Although IV insertion is an aseptic procedure, skin-dwelling organisms such as *Coagulase-negative staphylococcus* or *Candida albicans* may enter through the insertion site around the catheter, or bacteria may be accidentally introduced inside the catheter from contaminated equipment. Moisture introduced to unprotected IV sites through washing or bathing substantially increases the infection risks.

Risks of intravenous therapy

• Phlebitis

- Phlebitis is inflammation of a vein that may be caused by infection, the mere presence of a foreign body (the IV catheter) or the fluids or medication being given.
- Symptoms are warmth, swelling, pain, and redness around the vein.
- The IV device must be removed and if necessary re-inserted into another extremity.

Risks of intravenous therapy

• Infiltration

- Infiltration occurs when an IV fluid accidentally enters the surrounding tissue rather than the vein.
- It is characterized by coolness and pallor to the skin as well as localized swelling or edema.
- It is usually not painful.
- It is treated by removing the intravenous access device and elevating the affected limb so that the collected fluids can drain away.

Risks of intravenous therapy



- **Fluid overload**

- This occurs when fluids are given at a higher rate or in a larger volume than the system can absorb or excrete.

- Possible consequences include hypertension, heart failure, and pulmonary edema.

Risks of intravenous therapy

- **Electrolyte imbalance**

- Administering a too-dilute or too-concentrated solution can disrupt the patient's balance of sodium, potassium, magnesium, and other electrolytes.

- Hospital patients usually receive blood tests to monitor these levels.

Risks of intravenous therapy

• Embolism

- A blood clot or other solid mass, as well as an air bubble, can be delivered into the circulation through an IV and end up blocking a vessel; this is called embolism.
- Peripheral IVs have a low risk of embolism, since large solid masses cannot travel through a narrow catheter, and it is nearly impossible to inject air through a peripheral IV at a dangerous rate.
- The risk is greater with a central IV.

Risks of intravenous therapy

- **Extravasation**

- Extravasation is the accidental administration of IV infused medicinal drugs into the surrounding tissue which are caustic to these tissues, either by leakage (e.g. because of brittle veins in very elderly patients), or directly (e.g. because the needle has punctured the vein and the infusion goes directly into the arm tissue).



**ADMINISTERING
MEDICATION
THROUGH IV**

ADMINISTERING MEDICATION THROUGH IV



- **Administering medication by intravenous piggyback**
- This method of administration is known as partial-fill, a piggyback, a mini-bottle or a small volume parenteral.

ADMINISTERING MEDICATION THROUGH IV

- Administering medication by intravenous piggyback

- STEPS:

1. Gather all equipment and bring to the patient's bedside. Check the medication order against the physician's order.
2. Explain the procedure to the patient.
3. Wash your hands and assess the site for the presence of inflammation IV and infiltration.

ADMINISTERING MEDICATION THROUGH IV

•Administering medication by intravenous piggyback

•STEPS:

4. Attach the infusion tubing to the piggyback set containing diluted medication. Open the clamp and prime the tubing. Close the clamp. Connect the capped sterile needle to the sterile end of the tubing.
5. Hang the piggyback container on the IV pole, positioning it higher than the primary IV according to the manufacturer's recommendation.
6. Identify the patient by checking the identification band on the client's wrist and asking the client his or her name.

ADMINISTERING MEDICATION THROUGH IV

- Administering medication by intravenous piggyback

- STEPS:

7. Use the alcohol swab to clean secondary port.

8. Remove the cap and insert the needle into the secondary port. Use set of tape to secure the secondary set tubing to the primary infusion tubing. Stop backflow valve in primary line while piggyback solution is infusing once completed. Open backflow valve and flow of primary solution resumes.

ADMINISTERING MEDICATION THROUGH IV

•Administering medication by intravenous piggyback

•STEPS:

9. Open the clamp on the piggyback set and regulates the flow at the prescribed delivery rate. Monitor the medication infusion at periodic interval.

10. Clamp the tubing on the piggyback set when the solution is infused. Follow agency policy regarding the disposal of equipment.

11. Re-adjust the flow rate of the primary IV.

12. Wash your hands and chart the administration of medication after it has been infused.

ADMINISTERING MEDICATION THROUGH IV

- **Administration IV medication by volume-control administration set**

- Controlled-volume administration sets have different names, depending on the manufacturer. They are small fluid containers (100 – 500 mL in size) attached below the primary infusion container. Volume-control sets are equipped with either a stationary membrane filter or a floating valve filter at the base of the container and are designed to allow precise control of the amount of infusing fluid.

ADMINISTERING MEDICATION THROUGH IV

- **Administration IV medication by volume-control administration set**

- **STEPS:**

1. Gather the equipment and bring to the patient's bedside. Check the medication order against the original physician's order according to agency policy.
2. Explain the procedure to the patient and wash hands.
3. Assess the IV site for the presence of inflammation.
4. Withdraw medication from vial or ampule into the prepared syringe.

ADMINISTERING MEDICATION THROUGH IV

- **Administration IV medication by volume-control administration set**

- **STEPS:**

5. Identify the patient by checking the identification band on the client's wrist and asking his or her name.

6. Open the clamp between IV solutions and the volume-control administration set or secondary fill up. Fill it up with desired amount of IV solution. Close the clamp.

7. Use an alcohol swab to clean the injection port on the secondary set-up.

ADMINISTERING MEDICATION THROUGH IV

- **Administration IV medication by volume-control administration set**

- **STEPS:**

8. Remove the cap and insert the needle into the port while holding the syringe steady. Inject the medication. Mix gently with IV solution.

9. Open the clamp below the secondary set-up and regulate at the prescribed delivery rate.

10. Monitor the medication infusion at periodic intervals.

11. Attach the label to the volume-control device.

ADMINISTERING MEDICATION THROUGH IV

- Administration IV medication by volume-control administration set

- **STEPS:**

12. Place the syringe with the uncapped needle in the designated container.

13. Wash hands and chart the administration of the medication after it has been infused.

ADMINISTERING MEDICATION THROUGH IV

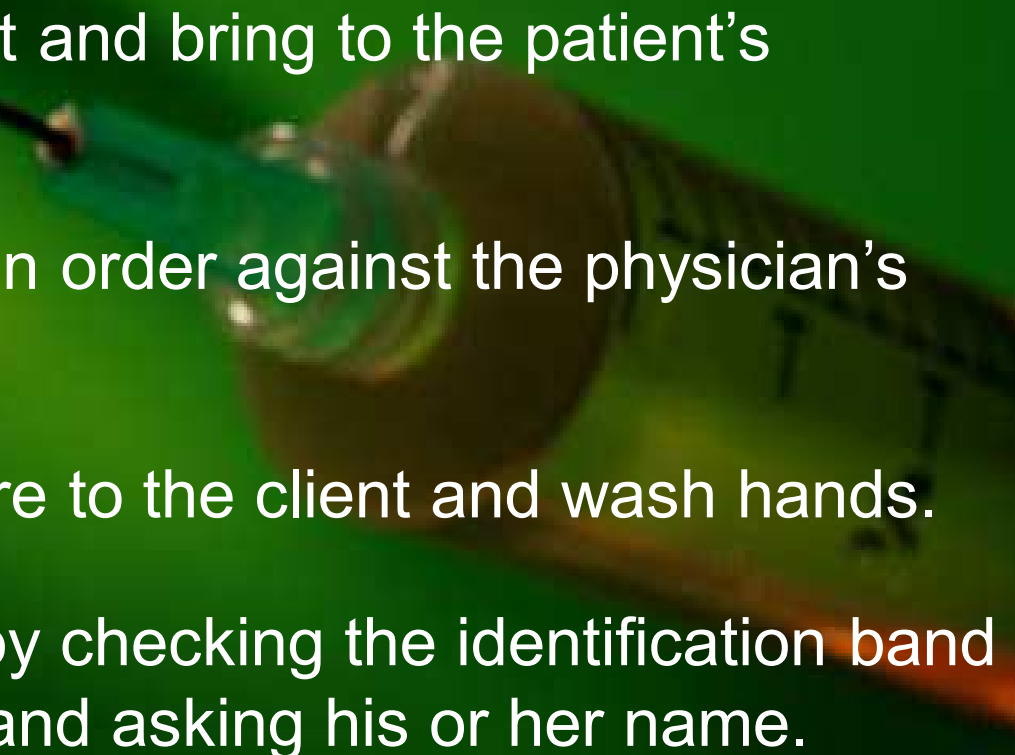


- **Adding medication to an intravenous solution container**
 - Medications, vitamins and electrolytes may be added to the main IV fluid container to be administered over many hours.

ADMINISTERING MEDICATION THROUGH IV

• Adding medication to an intravenous solution container

• STEPS:

1. Gather all equipment and bring to the patient's bedside.
 2. Check the medication order against the physician's order.
 3. Explain the procedure to the client and wash hands.
 4. Identify the Patient by checking the identification band on the client's wrist and asking his or her name.
- 

ADMINISTERING MEDICATION THROUGH IV

• Adding medication to an intravenous solution container

• STEPS:

5. Add the medication to the IV solution that is infusing:

- Check the volume in the bag or if the bottle is adequate.
- Close the IV clamp.
- Clean the medication port with an alcohol swab.
- Steady the container, uncap the needle, and insert the needle into the port. Inject the medication.
- Remove the container from the IV pole and gently rotate the solution.
- Re-hang the container, open the clamp and re-adjust the flow rate.
- Attach the label to the container so that the dose of the medication that has been added is apparent.

ADMINISTERING MEDICATION THROUGH IV

- **Adding medication to an intravenous solution container**

- **STEPS:**

6. Add the medication to the infusion:

- Carefully remove any protective cover and locate the injection port. Clean with an alcohol swab.
- Uncap the needle and insert into the port. Inject the medication.
- Withdraw the needle spike into the proper entry site on the bag or bottle.
- With tubing clamp, gently rotate the IV solution in the bag or bottle. Hang the IV.

ADMINISTERING MEDICATION THROUGH IV



- **Adding medication to an intravenous solution container**

- **STEPS:**

7. Dispose the equipment according to agency policy.

8. Wash hands and chart the administration of medication.

ADMINISTERING MEDICATION THROUGH IV

- **Adding a bolus intravenous medication to an existing intravenous line**
- Administering concentrated medications directly into a vein by the bolus technique is the most dangerous method of drug administration. These drugs act rapidly because they enter the client's circulations directly. Serious side effects can occur within seconds. Therefore it is imperative that the nurse time the administrations carefully to prevent too rapid infusion. Drugs may be given intravenously through an IV lock or an existing IV infusion line.

ADMINISTERING MEDICATION THROUGH IV

- Adding a bolus intravenous medication to an existing intravenous line

- STEPS:

1. Gather the equipment and bring to the patient's bedside. Check the medication order against the original physician's order.
2. Explain the procedure to the patient and wash your hands.
3. Assess the IV site for the presence of inflammation or infiltration.

ADMINISTERING MEDICATION THROUGH IV

• Adding a bolus intravenous medication to an existing intravenous line

• STEPS:

4. Select the injection port on the tubing that is closest to the venipuncture site. Clean the port with an alcohol swab.

5. Uncap the syringe. Steady the port with your non-dominant hand while inserting the needle in the center of the port.

6. Move your non-dominant hand to the section of IV tubing just beyond the injection port. Fold the tubing between your fingers to temporarily stop the flow of the IV solution.

ADMINISTERING MEDICATION THROUGH IV

- Adding a bolus intravenous medication to an existing intravenous line

- STEPS:

7. Pull back slightly the plunger just until blood appears in the tubing.

8. Inject the medication at the prescribed rate.

9. Remove the needle. Do not cap it. Release the tubing and allow the IV to flow at proper rate.

ADMINISTERING MEDICATION THROUGH IV

- Adding a bolus intravenous medication to an existing intravenous line

- STEPS:

10. Dispose the needle and syringe in the proper receptacle.

11. Wash your hands and chart the administration of the medication after it has been infused.



**GUIDELINES FOR CORRECT
ADMINISTRATION OF
MEDICATIONS**

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRADERMAL INJECTIONS

•Stabilize Injection Site.

1. Using your nondominant thumb, apply downward pressure, directly below and outside the prepared injection site. Do not draw the skin back or move the skin to the side because the skin will return to its normal position when pressure is released and will cause the needle bevel to either go deeper into the skin or to leave the skin, depending upon which direction the skin moves.

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRADERMAL INJECTIONS

2. Hold the skin taut until the needle bevel has been inserted between the skin layers

•Insert Needle.

1. Using your dominant hand, hold syringe, bevel up, with fingers and thumb resting on the sides of the barrel. If you insert the needle at a 20 degree angle, lower it at once to 15 degrees. Do not place thumb or fingers under syringe because this will cause the angle of insertion to exceed 15 degrees causing the needle to insert beyond the dermis.

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRADERMAL INJECTIONS

2. Insert needle, bevel up, just under the skin at an angle of 15 to 20 degrees until the bevel is covered. Continue stabilizing thumb pressure. You should feel some resistance. If the needle tip moves freely, you have inserted the needle too deeply. At this point, withdraw needle slightly and check again for resistance.

•**Inject Medication.** It is not necessary to aspirate the syringe since no large vessels are commonly found in the superficial layer of the skin. Inject the medication as follows:

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRADERMAL INJECTIONS

1. Continue holding syringe with same hand.
2. Release skin tension with other hand.
3. With free hand, push plunger slowly forward until the medication is injected and a wheal appears at the site of the injection. The appearance of a wheal indicates that the medication has entered the area between the intradermal tissues. If a wheal does not appear, withdraw the needle and repeat the procedure in another site.

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRADERMAL INJECTIONS

- Withdraw Needle.** To withdraw the needle, quickly withdraw it at the same angle that it was inserted.
- Cover Injection Site.** Without applying pressure, quickly cover injection site with dry sterile small gauze.

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRAMUSCULAR INJECTIONS

- Wash your hands carefully with soap and dry them completely. Put on gloves if necessary. Open the foil covering the first alcohol wipe.
- Take the cover off the needle by holding the syringe with your writing hand and pulling on the cover with your other hand. It is like taking a cap off a pen.

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRAMUSCULAR INJECTIONS

- Hold the syringe in the hand you use to write. Place the syringe under your thumb and first finger. Let the barrel of the syringe rest on your second finger. Many people hold a pen this way when they write.
- Wipe the area where the needle will go with the alcohol wipe. Let the area dry.
- Depress and pull the skin a little with your free hand. Keep holding the skin a little to the side of where you plan to put the needle.

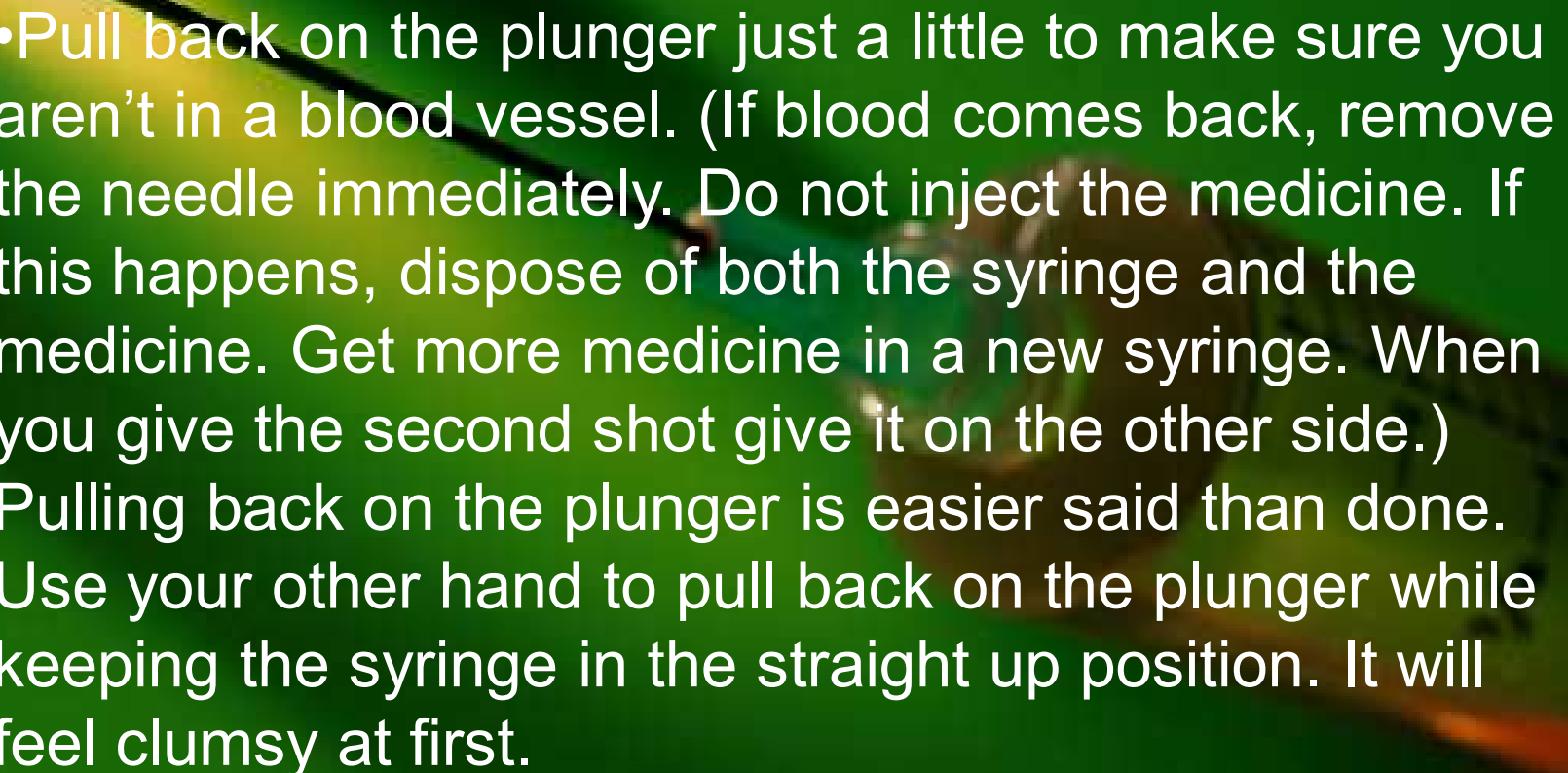
GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRAMUSCULAR INJECTIONS

- Use your wrist to inject the needle at a 90 degree angle (straight in). The action is like shooting a dart. Do not push the needle in. Do not throw the needle in, either. Throwing the needle will make a bruise. The needle is sharp and it will go through the skin easily when your wrist action is correct.
- Let go of the skin. The needle will want to jerk sideways. As you let go of the skin, hold the syringe so it stays pointed straight in.

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRAMUSCULAR INJECTIONS



•Pull back on the plunger just a little to make sure you aren't in a blood vessel. (If blood comes back, remove the needle immediately. Do not inject the medicine. If this happens, dispose of both the syringe and the medicine. Get more medicine in a new syringe. When you give the second shot give it on the other side.) Pulling back on the plunger is easier said than done. Use your other hand to pull back on the plunger while keeping the syringe in the straight up position. It will feel clumsy at first.

GUIDELINES FOR CORRECT ADMINISTRATION OF MEDICATIONS

•ADMINISTERING INTRAMUSCULAR INJECTIONS

- Push down on the plunger and inject the medicine. Do not force the medicine by pushing hard on the plunger. Some medicines hurt. They will hurt more if the medicine goes in quickly.
- After all the medicine is injected, pull the needle out quickly at the same angle it went in.
- Use the dry sterile gauze 2x2 to press gently on the place where the needle went in.