

Module 8:

During a session: giving immunizations



GLOBAL PROGRAMME FOR VACCINES AND IMMUNIZATION

EXPANDED PROGRAMME ON IMMUNIZATION



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About this module

When giving immunizations during a session, every vaccine must be given in a certain place and in a certain way. This module provides instructions for positioning the client and administering EPI vaccines.

1. How to give a BCG immunization

BCG vaccine comes as a dry powder. Before you can use it you must reconstitute it with diluent (see Module 7).

Remember about BCG immunization: before you use any vaccine or diluent check:

- whether the label is still attached to the vial; if it is not, dispose of the vial;
- whether it is the right vaccine or diluent;
- whether the expiry date of the vaccine or diluent has passed; if it has, dispose of the vial;
- whether the vaccine vial monitor (if one is present on the vial) has changed colour; if it has, dispose of the vial.

1.1 Position the child

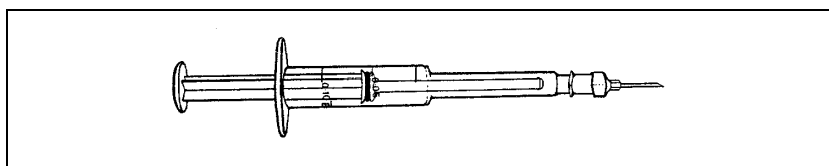
BCG vaccine is usually injected on the outer part of the left upper arm. Inject the vaccine in the same place for each child to make it easy to find the BCG scar subsequently.

Ask the parent to free the child's arm from its clothing, to seat the child on her or his lap, and to hold the child firmly.

1.2 Inject the BCG vaccine

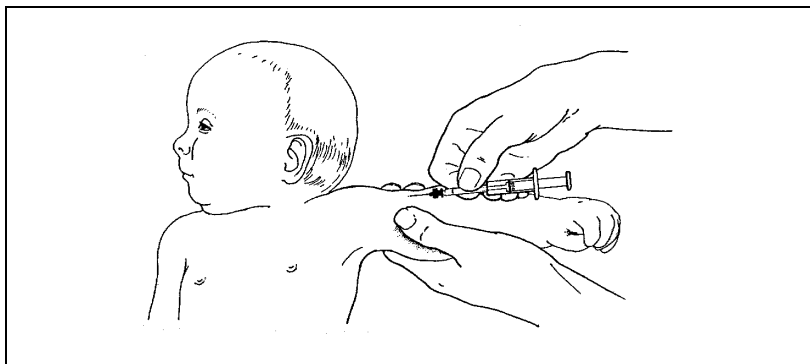
The dose of BCG vaccine is only 0.05 ml. To measure and inject such a small dose accurately you must use a special BCG syringe (0.1 ml), and a special BCG needle (10 mm, 26 gauge) (reusable).

Figure 8-A: BCG syringe and needle



- 1) Load the syringe with BCG vaccine.
Do NOT shake the BCG vaccine ampoule. Shaking can damage the vaccine.
- 2) Hold the child's arm with your left hand so that:
 - your left hand is under the arm;
 - your thumb and fingers reach around the arm and stretch the skin tight.
- 3) Hold the syringe in your right hand, with the bevel of the needle facing up towards you.
- 4) Lay the syringe and needle almost flat along the child's arm.

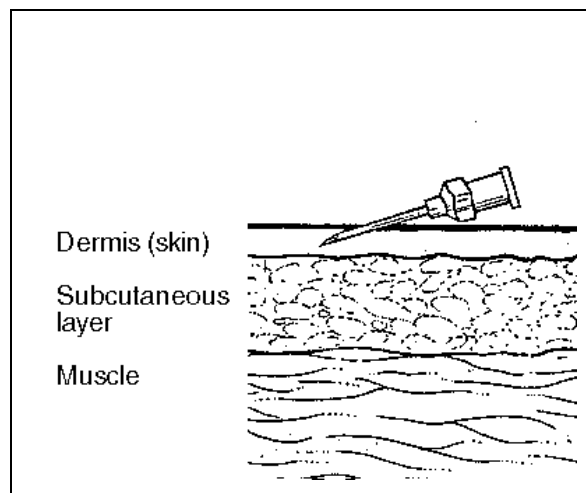
Figure 8-B: Position of syringe and needle



- 1) Insert the tip of the needle just under the skin – insert only the bevel and a little bit more.

Keep the needle FLAT along the arm, so that it goes into the top layer of skin only. Keep the bevel facing UP.

Figure 8-C: BCG needle position

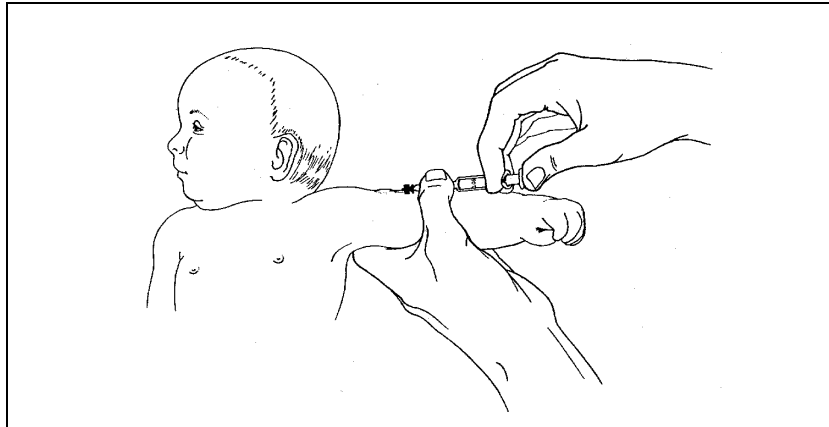


Do NOT push too far and do NOT point down or the needle will go under the skin. If BCG is injected under the skin an abscess or enlarged glands may result.

To hold the needle in position, put your left thumb on the lower end of the syringe near the needle, but DO NOT touch the needle.

- 6) Hold the plunger end of the syringe between the index and middle fingers of your right hand. Press the plunger in with your right thumb.

Figure 8-D: Injecting BCG



- 7) Inject the vaccine and remove the needle.

If you have injected BCG correctly you will see a clear, flat-topped swelling on the skin, like a mosquito bite. The swollen skin may look pale with small pits.

When an intradermal injection is given correctly the plunger is hard to push.

If the vaccine goes in easily you may be injecting too deeply. In this event, proceed as follows:

- Stop injecting immediately, correct the position of the needle, and give the remainder of the dose but no more.
- If the whole dose has already gone under the skin, count the child as being injected. Do NOT repeat the dose.
- Ask the parent to return with the child if any side-effects, such as abscesses or enlarged glands, appear

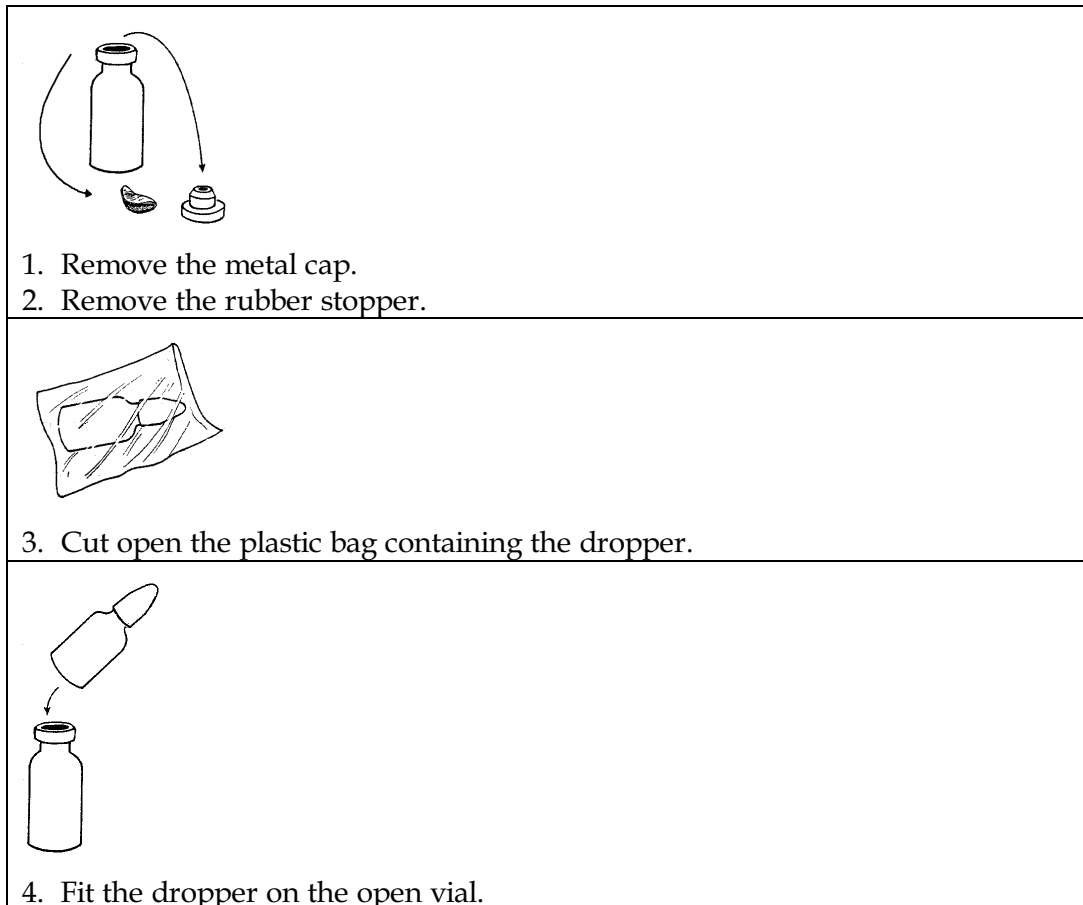
2. How to give an OPV immunization

2.1 Open the OPV container

Oral polio vaccine (OPV) comes in either a plastic dropper bottle or a glass vial with the dropper in a separate plastic bag.

To open a dropper bottle, remove the cap and put the bottle on the foam in a vaccine carrier to keep it cold.

Figure 8-E: Opening a glass vial





5. Put the dropper and vial on the foam in a vaccine carrier to keep them cold.

2.2 Position the child

Ask the parent to hold the child firmly, with the child lying on her or his back.

2.3 Give the OPV

- 1) Open the child's mouth by squeezing the cheeks gently between your fingers. This makes the child's lips point outward.
- 2) Hold the dropper over the child's mouth at an angle of 45°. Let two drops of vaccine fall from the dropper on to the child's tongue.

Note. The dosage may differ, depending on the brand of vaccine. If the child spits the vaccine out, give another dose.

Figure 8-F: Giving OPV, showing the dropper at an angle



Remember about oral polio vaccine:

- Give two drops on four occasions:
at birth; at 6 weeks; at 10 weeks; at 14 weeks.
- Oral polio vaccine is the most sensitive of the EPI vaccines.
Keep it on ice and check the vaccine vial monitor before use.

3. How to give a DPT immunization

The combination diphtheria-pertussis-tetanus (DPT) vaccine is usually given at the same time as OPV.

3.1 Prepare the DPT vaccine

- 1) Shake the vial so that the sediment at the bottom mixes completely with the liquid. If the toxoid is not well mixed the correct dose cannot be given.
- 2) If you suspect that the toxoid has been frozen and thawed, check for damage by using the shake test (see Module 3).
- 3) Remove the centre of the metal cap on the vial with a metal file.

3.2 Position the child

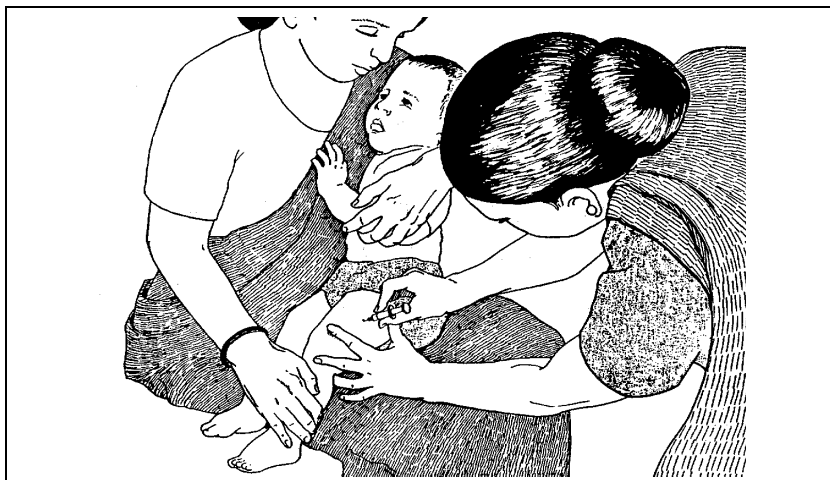
Ask the parent to remove any clothing from the child's right or left leg so that the thigh is bare.

The child should sit on the parent's lap as indicated below:

- The parent's left arm should be around the child, supporting her or his head and holding the outside arm.
- The child's inside arm should be tucked around the parent's body.
- The parent's right hand should hold the child's legs firmly.

Inject DPT vaccine into the thigh, NEVER into the buttock.

Figure 8-G: Holding child for DPT immunization



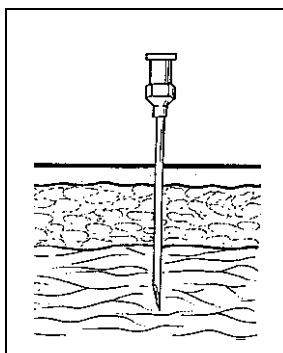
Injections into the buttock: the buttock should not be used as an immunization site for children or women because there is a risk of injury to the sciatic nerve which can cause paralysis.

3.3 Inject the DPT vaccine

You need a sterile 1.0 ml syringe and a sterile 25 mm, 22 gauge reusable needle or a 25 mm, 23 gauge single-use needle.

- 1) Put your finger and thumb on the OUTER part of the middle of the child's thigh.
- 2) Stretch the skin flat between your finger and thumb.
- 3) Quickly push the needle straight down through the skin between your fingers. Go deep into the muscle.

Figure 8-H: Needle position for DPT



- 1) Press the plunger with your thumb to inject the vaccine.
- 2) Withdraw the needle and press the site with cotton wool.

Remember about DPT injections:

- Give 0.5 ml on three occasions:
 - at 6 weeks;
 - at 10 weeks;
 - at 14 weeks.
- Inject DPT into the child's thigh.
- Do not inject DPT (or any other vaccine) into the buttock.
- Do not freeze DPT.

4. How to give a hepatitis B immunization

Schedules vary among countries that give hepatitis B vaccine as part of their immunization programme. Some give a dose at birth, 6 weeks and 14 weeks; others do so at 6 weeks, 10 weeks and 14 weeks. Since other vaccines are also given at these times, make sure that you inject each vaccine in a different part of the child's body.

4.1 Prepare hepatitis B vaccine

- 1) Shake the vial so that the sediment at the bottom mixes completely with the liquid. If the toxoid is not well mixed the correct dose cannot be given.
- 2) If you suspect that the toxoid has been frozen and thawed, check for damage by using the shake test (see Module 3).
- 3) Remove the centre of the metal cap on the vial with a metal file.

4.2 Position the child

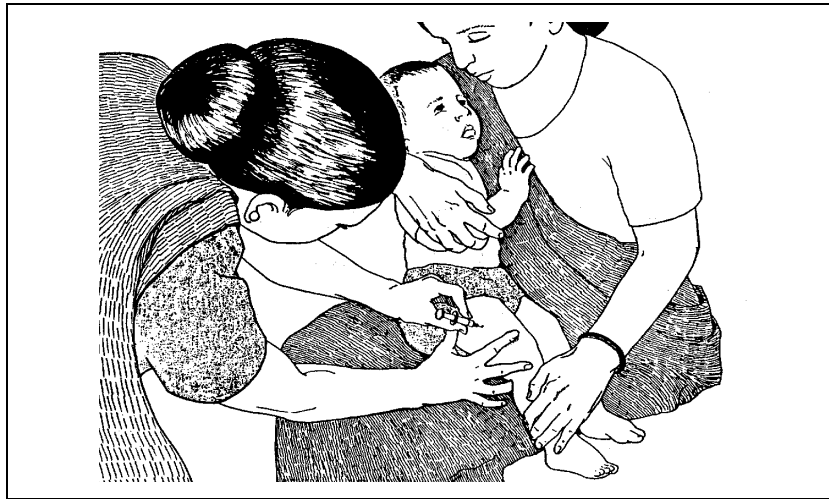
When hepatitis B vaccine is given at the same time as DPT vaccine it should be injected into the leg not used for DPT vaccine. Health workers usually inject DPT vaccine into the left thigh and hepatitis B vaccine into the right thigh.

Ask the parent to remove any clothing from the child's leg so as to uncover her or his thigh.

The child should sit on the parent's lap as indicated below:

- The parent's right arm should be around the child, supporting her or his head and holding the right arm.
- The child's left arm should be tucked around the parent's body.
- The parent's left hand should hold the child's legs firmly.

Figure 8-I: Holding child for hepatitis B immunization

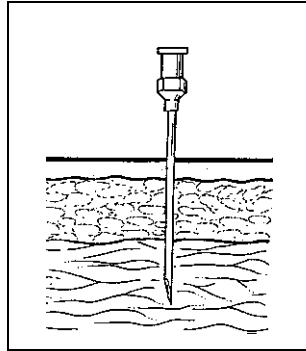


4.3 Inject hepatitis B vaccine

You need a sterile 0.5 ml syringe and a sterile 25 mm, 22 gauge reusable needle or a 25 mm, 23 gauge single-use needle.

- 1) Put your finger and thumb on the OUTER part of the middle of the child's thigh.
- 2) Stretch the skin flat between your finger and thumb.
- 3) Quickly push the needle straight down through the skin between your fingers. Go deep into the muscle.

Figure 8-J: Needle position for hepatitis B immunization



- 4) Press the plunger with your thumb to inject the vaccine.
- 5) Withdraw the needle and press the site with cotton wool.

Remember about hepatitis B injections:

- Give 0.5 ml in three doses in accordance with your programme's schedule.
- Inject hepatitis B vaccine into the thigh of a child, NEVER into the buttock.

5. How to give a measles immunization

Measles vaccine comes as a dry powder. Before you can use it you must reconstitute it with measles diluent (see Module 7).

5.1 Position the child

Clothing should be removed from the child's left upper arm so that the measles vaccine can be injected there. (Some health workers use the right arm.)

If the injection is to be made into the child's left arm he or she should sit on the parent's lap as follows:

- The parent's left arm should be around the child, supporting her or his head and holding the left shoulder.
- The child's right arm should be tucked around the parent's body.
- The parent's right arm should hold the child's legs out of the way, and the parent's right hand should hold the child's left hand.

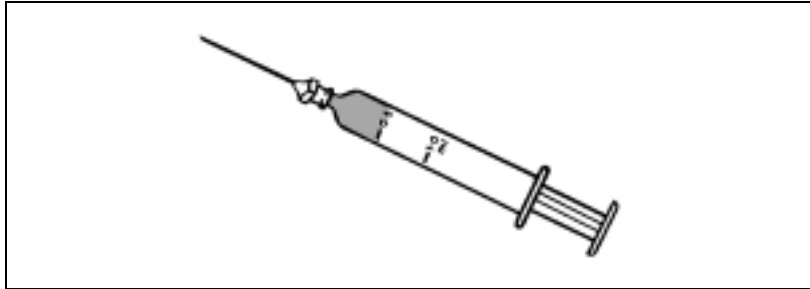
Figure 8-K: Holding child for measles immunization



5.2 Inject measles vaccine

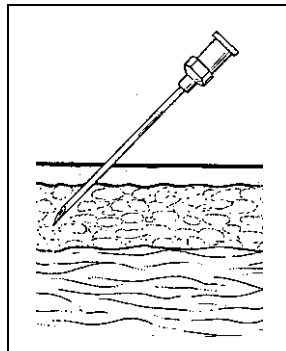
You need a sterile 0.5 ml syringe and a sterile 25 mm, 22 gauge reusable needle or a 25 mm, 23 gauge single-use needle.

Figure 8-L: Measles syringe and needle



- 1) Hold the child's arm from underneath. Your fingers reach around and PINCH UP the skin.
- 2) Push the needle into the pinched-up skin. The needle should go in at a sloping angle, not straight down.

Figure 8-M: Needle position for measles immunization



Do not push the needle too far in.

To control the needle, support the end of the syringe with your thumb and finger while you push the needle in. Do NOT touch the needle itself.

Figure 8-N: Giving measles vaccine



- 3) Press the plunger with your thumb to inject the vaccine.
- 4) Withdraw the needle and press the site with cotton wool.

Remember about measles injections:

- Give 0.5 ml once at nine months of age.
- Protect reconstituted measles vaccine from heat and sunlight.
- Destroy reconstituted measles vaccine after six hours.

6. How to give a yellow fever immunization

Routine yellow fever immunization is recommended in countries where this disease is endemic. Yellow fever vaccine is usually given at nine months of age, the same time as measles vaccine. Never give yellow fever vaccine to children below six months of age.

Like BCG and measles vaccines, yellow fever vaccine comes as a dry powder which, before use, must be reconstituted with the diluent that comes with it (see Module 7).

6.1 Position the child

Yellow fever vaccine should be injected into the arm that was NOT used for measles immunization. Health workers usually inject measles vaccine into a child's left arm and yellow fever vaccine into the right arm.

Clothing should be removed from the child's right upper arm.

The child should sit on the parent's lap as indicated below:

- The parent's right arm should be around the child, supporting her or his head.
- The child's left arm should be tucked around the parent's body.
- The parent's left arm should hold the child's legs out of the way, and the parent's left hand should hold the child's right hand.

Figure 8-O: Holding child for yellow fever immunization

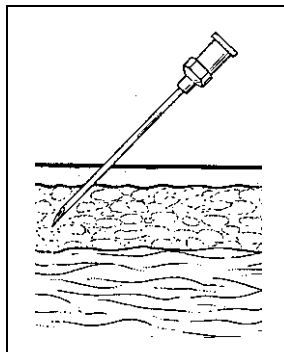


6.2 Inject yellow fever vaccine

You need a sterile 0.5 ml syringe and a sterile 25 mm, 22 gauge reusable needle or a 25 mm, 23 gauge single-use needle.

- 1) Hold the child's arm from underneath. Your fingers reach around and PINCH UP the skin.
- 2) Push the needle into the pinched-up skin. The needle should go in at a sloping angle, not straight down.

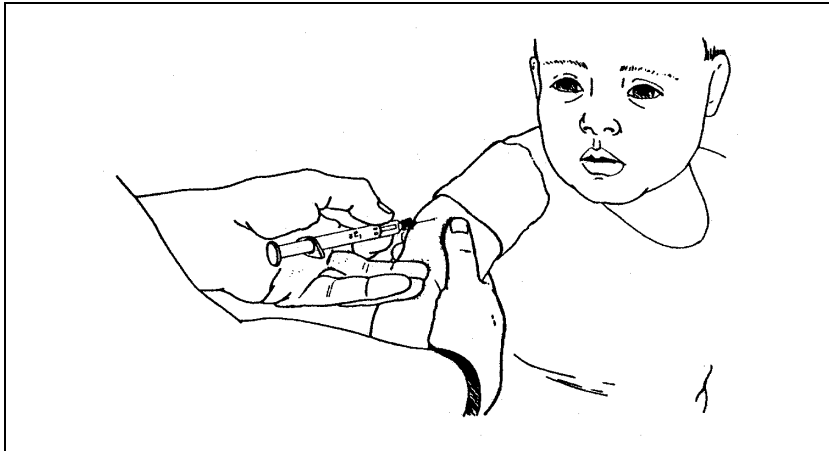
Figure 8-P: Needle position for yellow fever immunization



Do not push the needle too far in.

To control the needle, support the end of the syringe with your thumb and finger while you push the needle in. Do NOT touch the needle itself.

Figure 8-Q: Giving yellow fever vaccine



- 3) Press the plunger with your thumb to inject the vaccine.
- 4) Withdraw the needle and press the site with cotton wool.

Remember about yellow fever injections:

- Give 0.5 ml once at nine months.
- Yellow fever vaccine may be given at the same time as measles vaccine.
- Protect reconstituted yellow fever vaccine from heat and sunlight.
- Destroy reconstituted yellow fever vaccine after six hours.

7. Giving a tetanus toxoid immunization

Tetanus toxoid is given to women of childbearing age (or, in some countries, to pregnant women only).

7.1 Prepare tetanus toxoid

- 1) Shake the vial so that the sediment at the bottom mixes completely with the liquid. If the toxoid is not well mixed the correct dose cannot be given.
- 2) If you suspect that the toxoid has been frozen and thawed, check for damage by using the shake test (see Module 3).
- 3) Remove the centre of the metal cap on the vial with a metal file.

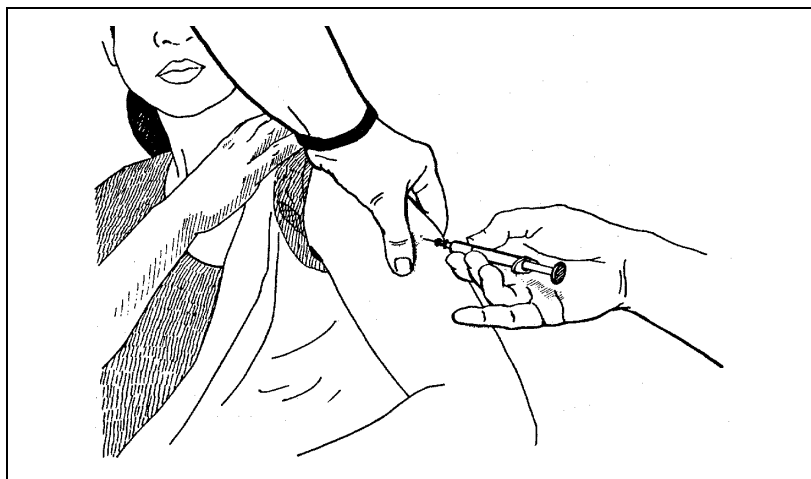
7.2 Inject tetanus toxoid

You need a sterile 0.5 ml syringe and a sterile 25 mm, 22 gauge reusable needle or a 25 mm, 23 gauge single-use needle. The syringe and needle are of the same sizes as those used for giving DPT and hepatitis B vaccines to children.

Ask the woman whether she prefers her immunization to be in her left or right arm.

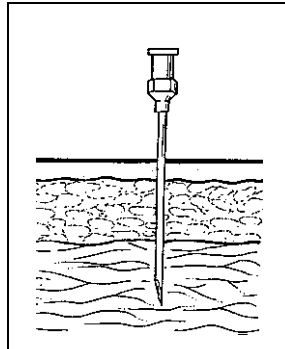
- 1) Put your finger and thumb on the OUTER part of the woman's upper arm.
- 2) Use your left hand to squeeze up the muscle of the arm.

Figure 8-R: Giving tetanus toxoid



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- 3) Quickly push the needle straight down through the skin between your fingers. Go deep into the muscle.

Figure 8-S: Needle position for tetanus toxoid immunization



- 4) Press the plunger with your thumb to inject the toxoid.
- 5) Withdraw the needle and press the site with cotton wool.

Remember about tetanus toxoid (tt) injections:

- Give 0.5 ml on five occasions:
 - TT1 as soon as the woman reaches childbearing age or as early in pregnancy as possible;
 - TT2 at least four weeks after TT1;
 - TT3 at least six months after TT2;
 - TT4 at least one year after TT3;
 - TT5 at least one year after TT4.
- Do not freeze tetanus toxoid.

To avoid infection and injuries from unsafe injection practices:

- Use only sterilised needles and sterilised syringes.
- Use the appropriate injection technique.
- Handle used needles carefully to avoid needle-sticks.
- Dispose of used syringes and needles properly.