

INJECTING GUIDE

By Pat Magee

Disclaimer: Testosterone, like all prescription medications, should not be used without appropriate medical supervision. Dosage and advice regarding injection should be obtained from your physician and his/her instructions should be followed. This document is only provided as a resource for those who are interested in information on IM (intramuscular) injections of testosterone. It is not, and should not, in any way or form be considered as medical advice or recommendation. If you rely on others to administer your shots, make sure they know what they're doing. It's YOUR ass (literally).

PRELIMINARIES

Track your injections on a monthly calendar and note any unusual symptoms or changes from your usual injection routine. Try to keep to your schedule as much as possible. A day or two usually won't matter that much in a pinch, as long as you do not make it a regular occurrence. Note which side you inject on each time. Ideally you should alternate sides if possible.

- Clear and prepare a work area for your injection.
- Surfaces should be clean, dry, and well lit.
- Wash your hands well using an anti-micro bacterial soap and dry them with a clean towel.

Hint: You can use a shoebox or other similar container to organize your injection supplies. A clean washcloth or paper towel can be used as a surface area from which to work. (I usually sit at my desk for injections to allow comfortable seating and a clear, open surface area.)

You will need:

- Cotton ball(s) or gauze pads
- Rubbing/isopropyl alcohol or alcohol wipes/prep pads
- Medication vial
- Syringes and needles
- Band-Aid or tape and gauze
- Gloves if your shot is being given by a friend

Syringes and needles:

Syringes come in many different sizes. Most transguys use 3ml syringes because they are injecting volumes of up to 1 ml. This means 3ml is the maximum amount the syringe holds. (A milliliter or ml is the same as a cubic centimeter or cc.)

Needles are described by length and thickness (or gauge). Gauge of needles ranges from 12 (really huge) to 30 (too tiny to inject T). Most guys use needles in the 21-23G range. Since T is viscous (thick like oil rather than water), using

smaller than a 23G needle is not usually possible as the T can't easily squeeze through that small a hole. Compounded T may be less viscous than name brand. A 20 gauge is probably too big for many (it hurts more). Larger gauge needles also will leave a larger hole and therefore will cause more bleeding and possible leak of T from the site. Needles also have a 'bevel', which is the angled part of the needle tip where the hole is. When people talk about the beveled edge, they mean the edge of the tip of the needle that has the hole in it.

Length is determined by the location of injection and the person being injected. Usually 1 inch to 1 ½ inch is usual for injections. Thinner guys will probably be able to use 1 inch, but guys with more fat may need 1 ½ inch. Ask your doctor for which is best for you and based on your choice of injecting sites.

Sometimes needles and syringes are supplied together (in the same wrapper) but sometimes they are separate. Either is acceptable, and your pharmacist will supply you with what you need based on your doctor's prescription.

Syringes have a shelf life of 1 year. They may be used after this date, but the rubber seal around the needle can begin to deteriorate and leak over time.

Open the syringe wrapper and inspect the syringe for damage or defect. Tighten the needle cap on snugly. There may be a small amount of moisture in the body of the syringe. This is to lubricate the plunger and is sterile and safe. Return the syringe to the plastic wrapper tray to strive for cleanliness.

Hint: defect is fairly rare, but always a good idea to check each syringe regardless. You might want to not use syringes with a badly angled needle.

The Vial:

Try to keep the medication vial in sealed container or bag while not in use. Testosterone should be stored at room temperature and protected from light. DO NOT refrigerate. Crystals will form if chilled. DO NOT inject if you see crystals, warm up the vial in your hand until solution is clear. If you find any solid particulate in the vial that does not go away with warming, do not use the T in that vial as it may be contaminated!

Remove the vial and lightly shake to reduce any potential separation of ingredients. Air bubbles are normal from shaking and allow these to clear before using. Cloudiness or darkening of the solution is not normal-DO NOT USE if not sure. Inspect for foreign objects. On very rare occasion, a small rubber piece can break off from the top seal and free-float in the vial. DO NOT USE the vial and contact your pharmacist. Some pharmacists may replace your vial if it is contaminated, but make sure you bring the vial with you. Other pharmacists may offer nothing or possibly a future discount.

Most compounded vials will have a 6-month expiration date and brand vials are good for 1 year. Most expiration dates can be exceeded by up to 3 months safely-although this practice is never a good idea. Do not use beyond that without the recommendation of your physician or pharmacist.

If you ever notice anything questionable, different or unusual, DO NOT USE and ask your physician or pharmacist.

New vials have a metal or plastic seal that needs to be broken off before using. Put a small amount of alcohol on your cotton ball (future reference to cotton balls implies for them to be lightly embedded with alcohol unless described otherwise), not too much that it drips off, and carefully wipe the top of the vial/ rubber seal (before inserting the syringe). This is important every time, as a small amount of solution can be left behind on the top of vial after your last injection. This residual solution on the seal can harbor bacteria and can be injected into the vial if it is not cleaned first. This can contaminate your vial and cause you to have serious infections if you inject the contaminated T.

Remove the wrapper from the Band-Aid and stick a corner of the Band-Aid onto the cleaned edge of a nearby counter/ desk/ table edge.

Hint: you'll only have one hand available later if you are doing this yourself, so getting everything ready before hand makes it much easier.

Filling the syringe:

Pick up the syringe by the barrel, carefully remove the needle cap, and pull back the plunger to a little more than the amount that will be injected (example- 1.2 ml if you are injecting 1ml) and insert syringe into vial. The beveled edge of the needle should be upward and insert the needle at a 45-degree angle into the rubber stopper. Inserting straight into the stopper can cause small fragments of the stopper to break loose into the solution. ALWAYS inspect the syringe for foreign objects and never use if there is anything suspicious floating in the solution. Inject the air into the vial. There is a vacuum inside the vial and there will be a need to balance the pressure inside when you remove the solution. So you inject the air to replace the T you will be removing. Having a slightly higher pressure inside will make the solution come out more easily. Too much isn't good either though, so don't over do it. NEVER wipe or touch the needle (even with alcohol). If the uncapped syringe tip or the needle touches any surface, discard and get a new one. A bad infection isn't worth the cost of a needle or syringe.

Hint: turn the vial upside down and use backlighting to see what's going on inside the vial as the syringe is filled. Make sure the needle bevel is below the surface of the T in the vial or you will be sucking air into your syringe.

Fill the syringe slightly over what will be used (and has been prescribed). There will be a few air bubbles inside. Carefully hold the vial with the inserted syringe upside down with one hand and "flick" the syringe with your finger to dislodge air bubbles to rise towards the needle. Gently push the plunger and force all air back into vial. There may be a need to withdraw more solution back into the syringe to get the desired amount, if so, there will be more little bubbles and it may be necessary to wait a second to let them converge. The place where the plunger's black rubber contacts the syringe body is where to read the mark for

measurement. Large volumes of air injected into the blood stream can be dangerous and cause a problem called an 'air embolism'. However the volume of air needed is in *tens of mls*, not the small volume that is injected with your shot. Also a small amount of air (about a tenth of an ml) is useful when you inject. (More on this later.)

Hint: watching doctors and nurses on TV can give you an idea of how to do this in a basic sense, but realize that they are actors, not medically trained, and not necessarily doing it the proper way. Emergency reality shows may be more helpful. Always ask your doctor about any injection questions or concerns. However, an even better resource is nurses – since they are the ones who are always giving shots and do most patient teaching about injection technique!

Recap the syringe, without touching the needle to the cap edge, and return to wrapper tray. DO NOT attempt to wipe off any excess solution on the needle. Carefully wipe the top of the vial off again with a cotton ball and return the vial to its box, bottle or bag.

Hint: NEVER wipe or touch the needle (even with alcohol). If the uncapped syringe tip or needle touches any surface, discard and get a new one. If the syringe has already been filled and the needle gets contaminated, you can unscrew the needle and replace with a clean one. Work over a clean, clear surface so that if you do drop anything, it doesn't fall on the floor. Again, a bad infection isn't worth the cost of a syringe or needle!

Locate the injection site:

In general when giving shots, the bigger the muscle, the better.

There are several sites on the body that are used for injection. Where you inject depends on the amount and type of medicine.

Two common places can accommodate up to a full ml, so they are the ones most often used by transmen. The upper-outside quadrant of the buttocks is standard. Many transmen also use the large quad muscle in the upper leg (thigh). The buttocks hurt a little less, but they are harder to reach if you are giving yourself a shot. Some transmen alternate all four sites. The arms (deltoid muscle) are also used for some injections, but because they are smaller muscles they cannot accommodate as much volume. However, some transmen who use less than a half ml sometimes use their arms.

Make sure the needle is the proper size for the site: 1.5 inches is usual for buttocks because the fat is thicker there; 1 inch for leg. These injections are going deep into muscle tissue, and you may have problems if the needle can't reach through all the fat!

For the buttocks, imagine each individual buttock is circle divided into quarters. The upper outer quarter is the 'safe spot' to avoid other important structures like nerves or large blood vessels.

For the thigh, you want to inject into the front of your thigh 'laterally' into the *outside half* of the leg. The part of your thigh that is more toward your groin ('medially') has several important nerves and blood vessels in it. To avoid hitting these, stay on the outer half of your thigh. You want to aim for about the midway part between your hip and knee. Anywhere in the 'middle third' of your thigh is ok (the lower third being toward your knee and the upper third being toward your hip.)

Hint: the thigh works well for those with short arms (for those who can't reach around to the butt) and for those with bad backs. It's also a lot easier to see what you're doing and you can use your dominant hand for either side.

Hint: A good way to locate the right area if you are using your buttock is to take your thumb and put it on the top-most edge of your pelvic bone (iliac crest). With your thumb on this extend your index and middle fingers around to touch your buttock. If you can reach an area with your fingertips, you are not too far medial (toward your butt crease) or too low.

If injecting into the butt, find a spot that is in the correct quadrant and that is identifiable (notice moles, skin variations, bumps, etc that will make it easy to relocate later). Feel for the thickest, "meatiest" part of the muscle. Grab a cotton ball and wipe the area vigorously and thoroughly. Clean an area at least 3 inches in diameter. When you clean, start from the center and wipe in circles of increasing size. This makes sure you do not drag 'dirt' from the outside into the clean area in the middle. If standing and injecting into buttock, avoid putting weight on the on the injection leg. Put full body weight on the alternate side and only use enough pressure on the injection leg to steady balance. This relaxes the muscle which makes the injection hurt less!

Hint: injecting into the same exact spot all the time can build up scar tissue and make the site harder to inject into. Try for minor variations; rotate to nearby spots on a regular basis.

Hint: injecting after your shower makes the whole area even cleaner before you use the alcohol swab.

If injecting into the leg, deeply grab a large "bunch" of muscle with the non-injecting hand. With the hand you will use to inject (your dominant hand when injecting into your thigh), grab a cotton ball and wipe the injection area vigorously and thoroughly. (Again, outwardly increasing circles.) The bunching of the muscle ensures that the muscle is relaxed fully and that you will be injecting into a deep tissue mass, this is helpful and may reduce knots, but is not necessary. Clean an area at least 3 inches in diameter. Even steady hands miss the target on occasion. If you 'forget' where you wiped, wipe it again! As far as cleaning the skin goes, too clean is never a problem, not clean enough can be. Pick up the syringe by the barrel. While still holding your muscle, uncap the syringe while carefully holding onto the barrel. (You can put the cap of the syringe into your mouth to pull it off as long as you only touch the cap!)

Hint: It is better to let go of the muscle than drop the syringe-use good judgment and caution in handling any syringe. If this is awkward, just uncap the needle first and take careful notice of where you had chosen your spot.

I currently use my upper leg and sit at my desk for injections. I rest my leg on top of a file drawer to take tension off the leg muscles so it can be completely relaxed.

Hint: lightly rub the backside of your knee if you find that your muscles are tense and hard, this tends to relax the large muscles in the leg. The more relaxed the muscle, the less pain and resistance you will have injecting. "Bunching" the muscle ensures it is relaxed and gives a thicker muscle to inject into.

Injecting:

Locate the area that you've cleaned, and aim for the center. Avoid hairs, moles, scars, etc as much as possible. You will want to put the needle in perpendicular (straight in, not angled) to the skin. With a steady and light punching movement, insert the full depth of the needle into the relaxed muscle in one stroke. You generally can't go in too deep – especially if you have a lot of fat, but don't stab too hard either. Inserting very slowly, "screwing it in" or with multiple, separate movements makes it hurt more and does more tissue damage (bruising, knots). I seldom feel any pain at all during most shots with a sharp, quick insertion. Injecting into a flexed muscle is painful, more difficult, and will cause a knot. Avoid any side-to-side movement of the syringe once inserted.

Hint: if you do feel bad pain, take a deep breath and wait a second or two. Often this will subside quickly. If it hurts really, really bad, especially an 'electric' pain that you feel in more than just the spot where you put the needle in, you may have hit a nerve. If you feel this is the case, remove the needle, apply a (dry, not alcohol soaked) cotton ball to the site. Then you can start again in a very nearby area. This may be tricky and you might need to use your Band-Aid for the first attempt's site.

Hint: face it guys, sometimes injecting is going to hurt, but try to keep the pain in perspective to how much you've suffered in the past (compare it to a broken bone, bad abrasion, sprain, surgery, etc) and realize it will usually pass very quickly. If you're really nervous about injecting, practice on an apple or an orange with a syringe and play around with getting comfortable with it; poking it in, proper angle, etc.

Hint: I usually do my shot in the morning after a warm shower. The warm water relaxes the muscles and the area is nice and clean. There also might be less sensation from the shot as well if the nerves are not yet fully "awake", as what usually occurs earlier in the morning. There may be less anxiety as well. Try to relax! (but be awake enough to know what you're doing)

Aspiration:

Once the needle is fully inserted into the muscle, slightly pull back on the plunger-about only .1 ml or less. This is called aspiration and ensures that you are not in a blood vessel. Normally, if you are in a deep muscle, you'll see some

tiny air bubbles and maybe a very small spot of blood. If you are in a blood vessel, there will be a lot of blood and no bubbles. If you do hit a vessel (don't panic guys, it's not that common) pull the needle out just a tiny bit and try to aspirate again. You will usually not need to re-insert the needle to a new location.

Hint: this sounds really serious and is scary for many guys. Relax a little, but do it right. Some nurses that I've watched don't even bother to aspirate at all because it's so rare a problem, especially if you use the right location.

You will need to keep holding the bunch of muscle and do this with one hand if injecting into the leg. It's a bit awkward but gets easier with time and practice.

Once you're in and aspirated, begin to slowly push down (or gently squeeze) the plunger. For a 1ml shot, count to at least 10 while you're injecting (for .5ml count to 5, etc). The solution is viscous (thick) and it often will be a little hard to push through the needle. Carefully, give the plunger a final firm squeeze to ensure all possible solution has been injected.

Hint: If you left a tenth of an ml of air in the syringe when you drew the T into the syringe you can use that air to push the remainder of the T into your muscle, and to decrease bleeding and seepage of T out of the hole. In nursing this is called an 'air lock' and is a common technique to make shots bleed less. While there is a lot of worry about getting an air embolism, this is only a concern with really high volumes. Even if the entire ml of T you inject was air and you injected it directly into a vein, it would cause you no problems. This small amount of air will be dissolved in the blood before it gets to your heart.

When ready to remove the needle, release the bunch of muscle you've been holding the whole time (if using the leg). Pull the needle out only half way and wait a second or two. This allows the tissue inside to "close up" on itself and decreases bleeding and solution backflow. Grab a (dry) cotton ball and you are ready to remove the needle. Quickly pull the needle straight out and apply the cotton ball to the site. Usually for me there is only a tiny spot of blood. Sometimes a small vein will be broken or "passed through" while inserting the needle. This may cause some minor bleeding, but mixed with some solution backflow, looks like a lot. Apply pressure with the cotton ball for a minute and see if it has stopped. Don't panic if a little blood runs down your leg and be prepared for this occasional instance to occur (have a towel under your leg/site, or at least handy).

Hint: bloodstains can be removed from the carpet or clothing with a cloth or cotton ball soaked with hydrogen peroxide.

Hint: after shots, while still applying pressure on the site with a cotton ball or prep pad, rub the muscle in a deep and circular motion. This breaks up the "clump" of solution in the muscle and reduces knots and swelling.

Apply a Band-Aid or tape a gauze pad over the site (optional) and dispose of the needle and syringe properly.

Needle disposal:

Needles are a medical waste. Syringes can be disposed of in the trash, but needles cannot be treated this way. (NOTE: breaking needles is a BAD idea. Putting them in a sharps container is sufficient.) Different municipalities have different laws governing needle disposal. Your pharmacist is the best guide to the local laws. Your pharmacist can also usually provide you with 'Sharps Containers.' These are rigid (usually plastic) disposal receptacles that discourage removal of the needles once they have been deposited. A sharps container should be kept in a safe place in your home. Each time you use a needle deposit it in the sharps container. When it is full, you can usually return it to your pharmacist and get a new one (often for a very small fee.)

If your pharmacist cannot help you with this, contact your town's municipal waste authority and they can tell you the local laws. There are also some mail order companies that will provide you sharps containers that you can ship back when full.

If you are traveling, you can either bring the sharps home with you, or inquire at your hotel as they may have a hotel sharps container you can use. (If you have friends who are insulin dependent diabetics they can be an awesome resource for advice about sharps while traveling!) If you transport your sharps home from vacation to dispose of, make sure you do it in a puncture-proof container so the guy handling your luggage doesn't get stuck!

Hint: If away from home, needles should never be placed in the trash - small Sharps containers are cheap and available for travel. Syringe bodies can be thrown away. Be considerate in realizing that finding syringes and injection supplies can be disturbing or frightening to others, and fascinating for kids to want to play with. Be discrete and it's always better to err on the side of caution. Syringe bodies can be recycled by some facilities, ask if not sure before placing in your recycle bin.

If someone else is injecting for you, it is generally advised that they not recap the needle after injection to avoid any contamination by a needle prick.

REMEMBER: Always consult your doctor or nurse with any questions or concerns surrounding injection. Excessive or uncontrolled bleeding, severe nerve pain or loss of function after an injection should be handled by a medical professional immediately.

Swelling, redness, and burning at the injection site may indicate infection or allergy. See your physician as soon as possible.

HIV and many other dangerous diseases and infections can be spread by blood contact. Always be careful and considerate of other's safety.
NEVER SHARE NEEDLES.

DISPOSABLE NEEDLES SHOULD NOT BE REUSED.

Refer to local HIV / AIDS organizations for more information on HIV and STDs.

Never attempt to self-prescribe hormone therapy. Injected medications should only be used under medical supervision. Blood tests and follow-up with a doctor is recommended at least every 6 months to 1 year while using testosterone.

If traveling with injection supplies, make sure to have your vial with name clearly marked as prescribed and doctor's contact info.

Injecting medication is safe, inexpensive, and convenient for many. Take the time to do it right and beware of any medical concerns surrounding your testosterone use. Know about the health risks associated with using T and learn about possible side effects and drug interactions.

BE RESPONSIBLE!

BE SAFE!

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