

## Info Sheet on Injections



Your Diabetes Specialist Nurse should have explained injection techniques to you, so hopefully you are already doing things correctly.

This Info sheet serves as a reminder and also has some personal advice from my own experiences, to help make coping with injections easier for you.

If you follow the correct injection technique your injections should be pain free.

### **Injection Sites**

The usual sites for injections are:

The buttocks - slowest absorption area

The front or side of the thigh - a medium absorption area

The stomach - quickest absorption area

I personally do not recommend injecting into your arm - regardless of weight most people only have a minimal amount of fat covering the muscles in their arms, which means it is possible to accidentally inject into muscle rather than fat. This would cause the insulin to be absorbed quicker and reduce your blood sugar level too fast. If you inject into an arm you are also unable to (in my opinion) follow the correct technique of pinching up a fold of skin.

It is important to rotate your injection sites to avoid soreness. When revisiting the same site, inject in a slightly different area, at least a fingers width away from where you last injected, to avoid discomfort and the possibility of lumps building up. The problem here is that if lumps do appear, it is then possible that you may inject into a build-up of fat, which could influence the absorption rates of your insulin.

You will probably find it easier to decide on an area for your morning injection and one for your evening injection, if on a two injections per day regime. If on a four injections per day regime, the same rules apply - sensibly rotate your injection sites.

### **How to inject**

Gently pinch up a fold of skin with the thumb and index (first) finger, so that you are raising a fatty area above your muscle. Try not to hold too tightly and relax your body as much as possible, as a tense limb may cause discomfort. Relaxing the limb also makes it easier to pinch up only the fatty area and not the muscle. Inject at a ninety-degree angle - unless you have been told to do otherwise by your Diabetes Specialist Nurse.

Holding your thumb over the button on the pen, enter the skin quickly but smoothly, but try not to jab or jerk, as any hesitancy may feel uncomfortable. Deliver the insulin by depressing the button on the pen slowly but firmly, in one continuous movement and once the insulin is delivered, count to approximately ten seconds before removing the needle. I also like to gently hold the fold of skin in the same position for another count of five to ten seconds, after the needle has been removed, as I feel it limits the possibility of leakage and of bruising which can sometimes occur.

If a small amount of insulin or blood appears on the skin, where you have administered the injection, dab the area with a tissue. This is quite normal and nothing to be concerned about. If the area does bleed it is only because you have caught a small blood vessel - it will soon stop. Bruising does occur sometimes - watch out that you do not inject your next injection in the bruise as that can hurt!

Discard the used needle safely and sensibly in a sharp's box.

The rotation technique I adopted, when on a two injections per day regime was to inject into my left buttock in the morning, which is a slower absorption area, ideal for slow release over the course of the day. Then inject into my left thigh, in the evening, which is a slightly quicker absorbing area, ideal to cover my main and largest meal of the day. The following morning I moved to my right buttock and that evening, my right thigh. This seems to work well. The buttocks and thighs are normally nice plump areas of the body, which makes the whole job a lot easier.

Now that I am on a four injection regime I inject the quick acting insulin in my stomach and then at night I inject the long term insulin in my buttocks

Please see my article about switching from two to four injections, available to read or download from the website, as it is far easier to control your diabetes and enjoy life! I highly recommend that you adopt the four injections system as soon as possible.

### **Other hints and tips:**

Never inject through clothing, as you could easily pick up a fibre of material and inject it into yourself, which could then lead to an infection.

Try not to move the angle of the pen device once the needle is inserted. Hold the pen device as steady as you can whilst delivering insulin and on removal, keep it at the same angle. This will reduce the possibility of bleeding, leakage and bruising - and pain!

Your insulin is best injected at room temperature, so if you need a new vial from the fridge, it is best to take it out and put it straight into your pen device, ready for your next injection. Cold insulin straight from the fridge can be uncomfortable when injected. Quick tip here - if you do have to take insulin from the fridge warm it by holding it in your hand for a minute or two.

When changing vials, it is best to screw the mechanism in your pen device back fully, until it is flush, to avoid putting any pressure on the new vial of insulin. Never push the mechanism back - always screw it back. I change my vial of insulin when the plunger is within a millimeter of the marker printed on the vial, as otherwise it may not be possible to mix the remaining insulin thoroughly (for those of you using cloudy insulin's). The other reason I do this is that it is not very practical to inject the last insulin in a vial and then have to change vials and redial the remainder of the required dose. Contrary to some advice I have read, not only does this create a time delay but it also brings about the possibility of forgetting how much you have injected. It also means injecting twice which is not really very convenient either! Keep it simple and use one vial at a time - that way you can always dial up the whole dose.

## **Having problems?**

If you are experiencing difficulty coping with your injections, never feel you are alone, or suffer in silence or pain. Make sure you contact your diabetes specialist nurse and talk to them! They are there to help and offer you advice. You can also talk to Diabetes UK. Better still, talk to other Diabetics, including me, which is part of the reason for this web site.

## **Further reference**

There was a very good article in Balance magazine, issue May - June 2001 about injection techniques. To obtain a back issue of this copy - phone Diabetes UK.

Novacare's leaflet 'Stepping Out' also offers a quick guide to using insulin - It is available from Nova Nordisk - see the contacts directory on the website for their details.

## **Types of Insulin**

There are many types of insulin, each with different actions. Human insulin is made in the laboratory, using genetic engineering. Pork insulin is made in a similar way, by using a molecule identical to that produced in pigs. Beef insulin is extracted from the pancreas of cattle that would otherwise have gone to waste.

There are clear and cloudy types of insulin. Clear insulin (or fast acting insulin) acts almost immediately to reduce blood sugar levels. Cloudy insulin's are a mixture of some fast acting insulin and some longer lasting insulin. When cloudy insulin is injected, the body uses part of it to cover the meal you are about to eat and the other part to slowly provide you with insulin in an effort to keep your blood sugar under control between meals.

Clear insulin should always appear clear - if it is ever lumpy or cloudy do not use it. Cloudy insulin should look cloudy but again, not lumpy. These days, most insulin comes in cartridges or vials that are used in pen injector devices. Apart from the vial in your pen that you are using, your insulin needs to be kept refrigerated. This is because insulin should be stored at temperatures lower than 25 degrees centigrade and ideally between 2 - 6 degrees centigrade.

Because there are many different mixtures available, it is a matter of discussing your needs with your Diabetes Specialist Nurse, to find the best treatment for you. Some diabetics take four injections a day while others are happy on two. A lot of it depends on your particular lifestyle. Adjusting doses is again, something that you must discuss with your Diabetes Specialist Nurse, as there are several solutions to achieving better control.