What is an Intrathecal Implant?
This is also known as a Baclofen pump. The pump delivers medication to the fluid surrounding the spinal cord. The medication is stored in a reservoir that is implanted under the skin. The pump delivers small, precisely controlled doses from the reservoir via a catheter tube (which is tunneled during the operation from the front to the back of the body) into the fluid surrounding the spinal cord. The pump is a round metal disc, about 1.5cm thick and 7.5cm across. It weighs about 150g.

What are the benefits of the implant?
The implant can offer relief to people who have frequent and/or extreme spasm. The pump delivers the medicine directly to the area of the spinal cord where most of the nerve transmission that is involved in the production of spasm is handled. For this reason, only a small amount of medication is needed whereas the same drug taken orally will travel everywhere in the body before a small proportion reaches the spinal cord. Thus side-effects are significantly reduced. The usual medicine used is Baclofen which reduces nerve transmission that produces spasm.

What are the risks of the operation
As with all operations there are risks involved. Your doctor will discuss with you the specific risks of this operation and general risks that may occur with any operation.
Specific risks with this operation are:
- The implant may get infected.
- The catheter tube may become dislodged from the reservoir pump.
- You may get some loss of muscle bulk due to less spasm.
- If you are a man you might get reduced erectile function, but your consultant will discuss with you other ways of managing this (e.g. medication, injection).
- Fluid may build up around the pump, under the skin. This may need to be drained by using a syringe and needle.
- Failure of pump needing replacement.
Am I suitable for this implant?

You will need to fulfil one of the following criteria:

1. You have spasms and oral medications have not worked or caused unacceptable side effects.
2. Your spasms significantly interfere with activities of daily living.
3. Your spasms significantly interfere with care needs or quality of life.

Additionally, your body must be large enough to support the pump.

How will I know that it is going to work?

It is important to make sure that this implant will reduce your spasm. We will do this by admitting you to hospital for 2-4 days for a test dose of intrathecal Baclofen. This does not involve surgery. You will be asked to lie in bed whilst a small amount of the medicine is injected into the spinal fluid. Approximately 2 hours after the injection you will be asked to get up into your wheelchair, and you will be assessed to see whether the medicine has reduced your spasm.

It is possible that you may initially have some side effects:
- nausea, vomiting, headache, drowsiness, and/or severe weakness.

You will not be asked to mobilise whilst any of these are apparent. However, these symptoms rarely occur with the tiny doses of Baclofen used for the test dose.

If your spasms do not improve you will be given another injection (with an increased dose of Baclofen) within 24 hours. If spasms still need further improvement, after 24 hours you will be given a third higher dose injection. If your spasms are not significantly improved after the third injection it is unlikely that you will benefit from having an intrathecal implant.

Your response to the Baclofen will be assessed by a doctor and a physiotherapist. If your spasms respond well to the intrathecal Baclofen you will be given the option of being placed on a waiting list to have an intrathecal implant surgically placed. You will then be discharged home.

What will happen before the operation?

You will be admitted one day before the operation. If you have an active infection near where the pump will be placed the operation will be cancelled and re-scheduled. Routine blood samples will be taken, and you will be given antibiotics. The doctor will explain the operation to you again, and will ask you to sign an operation consent form.

You may drink clear fluids up until 4 hours before the operation, after which you will be asked not to drink at all.

After seeing you in your wheelchair, the doctor will discuss with you where to site the pump. This is to ensure that the pump does not rest against any bony parts when you are sitting in your wheelchair. This is to also make sure that when you are undressed the pump will be visible, for ease of re-filling.
The operation
You will have a general anaesthetic, and will be given antibiotics during the operation. The operation involves two sites: one in the middle of your lower spine (where the catheter connection to the reservoir pump is placed), and one in the right side of your abdomen (where the reservoir pump is placed just under the skin's surface).

The catheter is tunnelled under your skin from your lower spine to the reservoir pump. All parts of the implant are under your skin.

The operation will take between 1½ - 2 hours.

What will happen after the operation?
You will need to remain on bed rest, lying flat, for 2-3 days. You will have a urinary catheter to drain your bladder and an infusion ('drip') on your arm. This will help to prevent nausea, vomiting, headache and injury to the operation site. You may need to wear an abdominal binder to reduce swelling at the operation site. You may need to take antibiotics for at least 10 days after the operation.

When you are able to re-mobilise you will need to avoid excessive trunk movement (self transfers, bending, twisting, reaching overhead) during the first 6 weeks after the surgery. This is to avoid dislodging the catheter from the reservoir pump. You will be assessed using a hoist or other transfer methods, and your community occupational therapist and/or your district nurse will asked to issue you with equipment will need at home.

If you were independent in your bowel care before the operation you may need help with it for the first 6 weeks after surgery. This will be assessed and, if necessary, a district nurse will be asked to visit you at home.

You will be advised to stay off work and to avoid contact sports for 6 weeks.

Your oral medicine for spasms will be slowly reduced over a period of time before being stopped. Whilst the oral medication is gradually reduced, the doctor will increase the dose of intrathecal Baclofen.

The pump has an audible alarm which is activated when the medicine in the pump is running low. This is quite high pitched and some people may not be able to hear it.

Long term follow-up
You will need to attend outpatient appointments regularly to have your pump re-filled with the medicine. During the first year you may need to have the dosage of your medicine increased.

To save you travelling to the Spinal Centre for each refill of your pump you may be asked to have your pump filled by your local hospital, if they have the right equipment.

If you have any technical problems with your pump you will need to contact the Spinal Centre.
Some of your questions answered

1. Will the pump be uncomfortable?

Most people report that the pump is not uncomfortable or restrictive and does not interfere with their movement.

2. Will other people be able to see the pump?

Depending on your shape and size, it may not show at all under regular clothes.

3. Will the pump improve my physical ability?

Whilst it will not give you any abilities you did not already have, you will find that it relieves the spasms that may have prevented you from using your abilities to their full potential.

4. Will my GP or someone similar be able to refill my pump in the community?

Very few GPs are able to do this as they do not have the equipment. A consultant in Rehabilitation Medicine in your area may have this service available. Your spinal consultant can ask about this for you.

5. Can the operation be reversed?

Yes it can be reversed. You would need to discuss this with your spinal consultant.

6. How often does the implant have to be replaced?

Every 4-6 years, due to the battery life. Research is ongoing to increase the life of the implant.

Is there anything else I should be aware of?

You must immediately report any new ‘beeping’ of the pump or significantly increased spasm. If the pump is failing to deliver the drug, this could result in drug withdrawal. Sudden withdrawal of Baclofen can lead to severe medical problems.

The majority of people do not encounter any problems and will only need to be seen for their regular refill appointments. If there is increased spasm, the dose will be increased. If the problem does not resolve, the pump and catheter will be x-rayed to look at the connections. Sometimes specialised x-rays will be used to study the pump further.

Useful telephone numbers

Spinal Consultant’s Secretary: ____________________________

Surgeon’s Secretary: ____________________________

Ward: ____________________________

Spinal Outpatient Nurses: 01722 429291 or 01722 429130

We hope this leaflet will have answered your questions. If you need more information please do not hesitate to contact the people above.