WHAT IS AN INFUSION DEVICE?
There are two types of device we use, one is an automated device and the other is a reservoir type device. These are connected by tubing to the fluid around the brain and spinal cord (cerebrospinal fluid). The device is placed remotely (over the rib cage) and the tubing is tunneled under the skin.
The tubing may be able to be felt under the skin but not usually seen. The device can usually be seen. The reservoir type device is used for intermittent injection of fluid into the C.S.F. While the automated device is filled and continuously pumps fluid into the C.S.F.

WHAT CONDITIONS ARE THE DEVICES INSERTED FOR?
The common reasons are:
- Infusion/injection of drugs for pain control
- Injection of drugs for chemotherapy
- Infusion of drugs for treatment of leg spasms after spinal cord injury.

HOW DOES IT WORK?
It is effectively a delivery device that sends the drug to the fluid around the spinal cord where it is needed. The dose that can be given this way is much smaller than the dose that would be needed either orally or intravenously.

WHAT YOU NEED TO TELL THE DOCTOR BEFORE SURGERY?
If you have clotting problems.
- Any recent new health problems.
- If you are taking blood thinning agents. e.g. Warfarin/aspirin/anti-inflammatory drug or other allergies.

HOW IS IT PERFORMED?
In the operating theatre you are given a general anaesthetic and then positioned on your side. The position of the incisions is marked out over the spine and chest wall. You are covered in drapes so that only the incisions and the area between them can be seen. Local anaesthetic is injected and then the skin is cut over the spine. A needle is pushed into the C.S.F. A fine catheter is inserted down the needle and fed up the inside of the spine in the fluid. The needle is then withdrawn.

This leaves just the plastic catheter in the C.S.F. with one end free. A metal tunneler is passed under the skin to the other incision on your chest wall. The catheter is passed through the tube in the middle of the tunneler. The tunneler is removed from the abdominal incision. The catheter is left behind and this is then connected to either the reservoir or the pump. This is then sewn to the chest wall. The skin is then sutured. A dressing is applied over each wound.
WHAT HAPPENS NEXT?

You will wake up in recovery and after about 1 hour you will be transferred to the ward. The nursing staff will be continually checking your pulse/blood pressure/limb strengths and level of alertness looking for any changes to indicate a complication. During the first night on the ward you will be woken for these observations. You will have intramuscular and oral analgesia. This operation will not hurt much as the incisions are small. Sometimes you will have difficulty passing water and a you may require a catheter (this may have been inserted for the operation).

The day after surgery the drip in your arm will be removed. In the next few days you will be encouraged to go for a walk. Gradually over the next two days you will be able to get around as normal. When you are comfortable you will be able to go home. You will have a X-ray of the catheter to check its position before going home. Commonly you will have a headache for a while after the operation, this resolves after a few days and is because we let a little fluid escape when we insert the catheter. The sutures are usually removed about 5 - 10 days after the surgery.

WHAT HAPPENS WHEN YOU GO HOME?

You will be tired
You may have intermittent headaches. Particularly with exercise and this will resolve with time

DO NOT DRIVE UNTIL YOU ARE REVIEWED
You will be reviewed at 4 - 6 weeks post-operatively.

WHAT ARE THE RISKS?

Discuss these and others with your surgeon

THE COMMON RISKS ARE

Wound infection (treated with antibiotics)
Meningitis (treated with antibiotics) and system may need to be removed
Catheter problems:
   It may come out of the device or spine.
   It may migrate into spine.
   It may perforate the skin.
   It may block.
Post operative blood clot requiring drainage.
Seizure
Clot in the legs (can travel to the lungs [uncommon])
Complication not related directly to the surgery e.g. Pneumonia
Heart attack
Urine infection

WHAT YOU SHOULD NOTIFY YOUR DOCTOR OF AFTER SURGERY

Increasing Headache
Fever
Fitting
Swelling or infection in the wound.
Fluid leaking from the wound.
Wound breakdown.
Weakness or numbness
Drowsiness

WHAT ARE THE SPECIFIC PROBLEMS WITH AN INFUSION DEVICE?

The catheter may block
Because the device is filled with fluid on regular occasions there is a risk of infection. This is from the needle going through the skin.

The pump or reservoir may erode the skin.

If you have a pump, depending on the type, you may not be able to have an M.R.I.

YOU WILL BE ASKED TO SIGN A CONSENT FORM TO SAY THAT YOU UNDERSTAND THE RISKS. IF YOU ARE NOT SURE ASK BEFORE YOU SIGN.