Introduction

A vein is considered to be “varicose” when it is larger, more visible and less straight than normal. About a third of people in western countries will experience varicose veins at some point in their life. Varicose veins cause no symptoms and no serious harm in the majority of people. However, they can be unsightly, cause discomfort and swelling and in severe cases may progress to skin changes and skin ulceration.

There are several ways to treat varicose veins of which none is perfect for all situations or all people as each has its advantages and disadvantages. As a vascular surgeon who can provide all of these treatment methods, Dr Bond is able to offer you unbiased advice on the most appropriate choice for your veins. This booklet describes what to expect if, after discussion with him, you undergo open surgery.

What are the advantages of open surgery?

The basic underlying cause of varicose veins is a failure of the valves that exist within the veins to ensure that the blood only travels one way; from the feet, upwards to the heart. If for any reason those valves become “leaky” blood can pool in the legs. This pooling causes a build up of pressure within the veins which over time results in them swelling and become “varicose”. If the veins in your legs are bigger than a few millimetres in width it is likely that the main valves are not functioning correctly either in the groin or behind the knee.

Open surgery is the traditional method of treatment and in many patients is still the best choice. It is the only treatment that completely removes the main vein that is responsible for the varicose vein development as well as targeting the valves responsible for the vein formation of varicose veins. It is often referred to as "High ligation and stripping" since the main valve in the affected vein is tied off (ligated) at the groin (High in the leg) and a large piece of vein is then removed in one go (stripped). Some people suggest that stripping is out of date, traumatic or barbaric. However, these descriptions are emotive and not factual.
Is it safe to remove veins? Don't we need them?

There are two main groups of veins in the leg. A system of wide veins deep within the legs that you cannot see, and a group of surface or “superficial” veins. It is the surface veins that are visible as varicose veins. Provided the deep veins are not blocked, they will easily take on the extra work when the surface veins are removed. You will have been sent for an ultrasound scan as part of your pre-op assessment and part of the reason for this scan is to ensure that the deep veins are healthy. Furthermore, varicose veins can not be used for bypass surgery and so keeping them for use in the future is not beneficial.

What to Do and Expect Before the Procedure

**Contact your insurance company and admitting hospital**

You will be contacted by your admitting hospital 3-4 days prior to your admission and told exactly what preparations you will need to make and time you need to arrive at. However, it is a good idea to contact the hospital yourself as soon as you know you are having surgery to check what things may be required. Dr Bond will have given you one or more item numbers which identify the surgery to Medicare and other providers. It is important to check with the hospital and your insurance company that these items are covered in your case and what, if any, gap may arise.

**Complete the consent form after reading the material attached**

You must not have the procedure if you are pregnant or medically unfit.

**Stop any anticoagulant medication**

Please discuss with Dr Bond if you are taking any medication such as aspirin, Warfarin, Dipyridamole or Clopidogrel (Plavix). These may require stopping up to a week before the procedure. **DO NOT STOP without discussion with Dr Bond.**

**Shaving the leg**

The leg should be shaved from skin crease in the groin to the ankle, on the day of treatment. It allows the varicose veins to be seen more easily. This can be done on the ward where clippers are available.

**Fasting**

Generally speaking, you will need to fast (not eat or drink anything at all) from midnight before the operation and arrive at the main reception desk of the hospital between 6.30 and 7.00am the morning of the operation.

**Hospital Arrival and Stay**

Check with the hospital what time you should arrive but generally this is 6.30-7.00am. At around 7.30am you will be seen by both Dr Bond and the anaesthetist, to make a few pre-operative checks and answer any remaining questions you might have.

**Pre-op marking**

Most people (but not all) will need to have their legs scanned by ultrasound the morning of the operation. This scan is similar to the initial scan but quicker. The technician will mark areas on your legs with a marker pen. These marks guide the operation and it is important that you do not accidentally rub them off before the procedure. Dr Bond will also put some more pen marks on your legs on the morning of your operation. The scan is organised by the hospital.
The operation. Surgery is performed under general anaesthetic and usually involves a cut of 2-3cm in either the groin skin crease or behind the knee to target the main vein valves (or “roots”). The major junctions are isolated and tied off. A "wire" is passed down the saphenous vein which is then physically removed by pulling the wire through. A number of 1-2mm cuts are made over any prominent veins - this is called phlebectomy. The larger cut has stitches that dissolve, whereas the other incisions are too small to require a stitch and will just have a steri-strip plaster applied.

Immediately after the operation

You will wake up in the recovery room, which is a part of the operating suite. Shortly after that you will return to your ward bed. Once the nurses are happy that you are recovered and awake enough you will be able to eat and drink and do some short walks. If you have had only one leg treated, are young and fit and recover quickly from the anaesthetic you may be able to go home the evening of the same day of the operation. However, most people stay overnight and go home the next morning.

After Discharge

**Bandages and dressings**
Bruising is very common after varicose vein surgery. To try and reduce the amount of bruising and to decrease any risk of vein re-occurrence it is important to wear dressings that compress the leg/s for several weeks after the operation.
When you wake up, you will have a tight bandage on your leg. Occasionally some blood may appear on the bandage and the nurses on the ward will apply further layers over the top. After 24 hours these bandages will be removed, and replaced by (very) tight stockings. These stockings should not be removed at all for the first 5 days unless they become very dirty in which case they may be removed, washed and immediately replaced. After 5 days, the stockings can be removed and washed and then worn during the day only for a minimum of 2 weeks. If tolerated, they can also be worn for longer to get the best results, until all bruising has gone. Occasionally Dr Bond may advise longer term wearing of the stockings.

**Mobilisation and Return to work**
The recovery from this surgery involves gentle daily walking initially and gradually increased activity over a week. Prolonged standing should be avoided. Those with sedentary occupations can return to work within 2-3 days but people with jobs requiring heavy lifting may need up to 2 weeks.

**Travel**
It is better to avoid any prolonged travel that has a duration of greater than 3-4 hours for 6 weeks. Travelling further than 2 hours in the first 24 hours should also be avoided. If you do need to travel during this time, please discuss the appropriate ways of preventing deep vein thrombosis.

**Side Effects of Varicose Vein Surgery**
Side effects are symptoms that may occur reasonably frequently after varicose vein surgery. They are not complications as they are to be expected as a process of successful surgery but may cause minor discomfort or concern if not explained.
1. Nausea- Feeling sick as a result of the general anaesthetic can occur. If you have had problems with anaesthetics in the past you should discuss it with the anaesthetist before your surgery.

2. Bruising- Some degree of bruising will occur in all people undergoing vein surgery but can vary in severity. It tends to get better within two to three weeks but can last up to 6 weeks in some people. If you know that you are someone that tends to bruise quite easily you should expect this to occur. The wearing of stockings helps to reduce this.

3. Bleeding- A small amount of bleeding from your wounds is common in the immediate post operative period. Usually this is managed by an extra bandage applied by the nurses on the ward.

4. Scarring- All surgical procedures leave a scar. A single 2-3 cm scar is left in the groin or behind the knee which is masked by its position. The very small scars from the tiny cuts in your leg tend to fade over time but sometimes remain visible.

5. Mild pain/discomfort- This may persist for several days to a week, and shows that the injections are working. The degree of discomfort is partly related to the initial size of the veins. This is usually improved by walking or by Paracetamol or Ibuprofen.

6. Discolouration and tender lumps- Hard, lumps can often be felt at, or near, the sights where vein has been removed. These may be tender initially but become non-tender after 1-2 weeks. The hard lumps however may remain for anything up to two months.

7. Nerve injury- Isolated patches of numbness close to the site of vein removal may occur. Most people do not notice these patches and they tend to improve over time.

8. Complications of Varicose Vein Surgery - Unlike side effects, complications are rare but may be serious. Complications can occur even with perfect technique. Modern treatment of varicose veins is extremely safe, however, it is very important to realise that all methods of treatment carry some risk.

9. Phlebitis- Inflammation of the treated veins can occur. It is treated by further compression, anti-inflammatories and walking. It does not represent infection and does not require antibiotics.

10. Deep vein thrombosis (DVT)- Blood clot extending into the deep veins can occur. This potentially serious complication is very uncommon if the protocol of compression and regular
daily walking is followed but is potentially very serious. In even rarer cases, a clot can break away from a DVT resulting in a Pulmonary embolus which can in some circumstances be fatal.

11. Pigmentation- The appearance of brown marks near a treated vein and is due to haemosiderin, a form of iron from the blood. Most disappear within 3-12 months but in about 5% of patients can persist past 12 months. Persistent pigmentation may respond to laser treatment.

12. Nerve injury- Small numb patches on the skin usually cause little discomfort. However, rarely may be painful, or sensitive. These should get better in a few weeks or months but may remain long term. Extremely rarely, if you are undergoing a procedure involving a cut behind the knee a nerve can be damaged that results in a “foot drop” where the power to ‘flex’ the ankle is reduced.

13. Matting (localised increase in superficial small veins)

14. Keloid scars- Some people have a tendency to form scars that are red and raised. They are most common in dark skinned people but can occur in anyone. It is likely you are already aware if you have a tendency to keloid scars you should discuss this with Mr Bond before your surgery.

15. Damage to the arteries or deep veins
16. Exceptionally rare, but you may need to have further surgery to repair any damage.

17. Vein persistence after surgery- The results of surgery are very good. However, especially in cases of extensive varicose veins, isolated visible veins might remain. These will usually shrink away over time but occasionally require a secondary treatment with an injection. It is also important to realise that surgery does not remove the spider veins and small “reticular” veins which are best treated with Laser or Sclerotherapy.

Return of varicose veins

Before you have any procedure for your veins, think carefully about your expectations and discuss them with the nurse or doctor. No matter what treatment is used, varicose veins have a rate of recurrence up to 20%. But correct treatment using appropriate methods will reduce the chance as much as possible.

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