Breast reconstruction following a mastectomy using Brava and autologous fat transfer (AFT)

Rodney Surgical Centre is leading the way with a scientifically-proven and more natural alternative to breast reconstruction for women following breast cancer surgery. The same no knife procedure can be used for breast augmentation, defect corrections and congenital asymmetries.

The technique has been developed by the highly respected and much published Dr. Roger Khouri, plastic surgeon at the Miami Breast Centre. David Crabb (plastic surgeon), who has trained with Dr Khouri, is the only surgeon in New Zealand trained in this procedure. The procedure is less invasive, less stressful on your body than traditional methods, and recovery time is quick. Patients go home on the day of surgery.

For many patients, this technique is a huge leap forward from the traditional TRAM flaps, or Lat dorsi flap, and other reconstruction procedures of the past, which require major surgery and come with the disadvantages of implants in many cases. Using Brava and AFT, David Crabb can rebuild your breast from your own fat. It will feel normal and real.

The technique is minimally invasive and has the side benefit of utilising liposuction to harvest the fat from areas of your body with unwanted fat, e.g. thighs, buttocks, stomach.

Final breast size will be discussed between you and David Crabb, and factors such as your body shape, available fat and the condition of your skin will be considered.

The procedure

For a few weeks prior to the procedure, while you sleep, you will need to wear an external expander called Brava. This soft gel-like brassière gently suctions the breast area in order to create an adequate matrix for the fat injections.

At first, the breast is conditioned with a low suction sports pack which is battery powered and fits into the palm of your hand. After a few days, you switch to use a squeezy bulb manual vacuum pump which is like a blood pressure bulb. Finally, in the last two weeks, you are switched to a motorized pump which you carry in a shoulder bag.

You adjust the pressure, starting at a comfortable level and gradually increasing it, depending on your tolerance. Most patients ramp it up in the week prior to surgery to achieve the maximum expansion so we can maximize the amount of grafted fat in your new breast.

Ideally, just prior to surgery, we want the Brava bra to have made your breast size about one third more than the desired final size.

With reconstruction, a second step is usually needed and the Brava system can be used again.

See page 3 for further detail and illustrations of the procedure.

Fat transfer process

David Crabb removes fat from one area of your body and meticulously injects it back into the prepared area as hundreds of tiny individual droplets in the breast site. These micro-fat transfers are harvested by gentle liposuction from the thighs, buttocks and stomach – wherever there is fat to spare. Even slender patients do well with this procedure as we usually find enough fat cells. The fat then “takes” like a graft with gradual replacement by cells that grow in.

Fat cell survival is between 50% and 95% with an average of two thirds survival. The use of the Brava is very helpful as it increases blood supply and lymph flow which sustains the grafts.

Suitable indications for AFT reconstruction

1. Following breast cancer surgery

Most patients who have had a mastectomy will do well with this procedure.

Loose abdominal tissue can be recruited and slid upwards to assist in your breast creation.

Collapsed skin with tethered scars may need some preliminary work to prepare for the Brava device so it seals well. Tethered scars can also be released during the fat grafting procedure.

Radiotherapy damaged skin does very well with fat grafting and the technique is now in use in the UK and the USA to treat radiation burns. It works by allowing the damaged blood supply to recover.

In severe cases of scarring and tethering, scar revisions may be needed as a preliminary step.
2. Salvage cases

Implant failure or flap failure can be a good indication for AFT. Implants are removed and fat grafting can then be done into the skin flaps and underlying muscle to complete the first stage in preparation for the Brava use. This produces a surprisingly effective breast mound for most people. Fat grafting can only be placed into tissue when the cavity from the implant has healed/closed.

Anaesthesia

The procedure is done as an outpatient (no overnight stay required), under general anaesthesia and sedation.

Recovery

Average recovery time is 2-4 days, a lot quicker than all other forms of breast reconstruction.

The benefits of our procedure

1. No foreign object in body
2. Quick recovery
3. No cuts, no incisions
4. Liposuction
5. No implant problems
6. Minimally invasive

Am I a candidate?

Most women are candidates for our Brava and AFT breast regeneration procedure. There are only four disqualifiers:

1. Smoking

Smokers have a poor capacity to regenerate tissue. We recommend that a patient stops smoking at least two months before the procedure and abstain completely throughout the process, and for three months after. If she cannot comply, we cannot help her.

2. Herceptin® chemotherapy and other angiogenesis inhibitors

These prevent the revascularization of the fat graft and lead to a poor outcome. We recommend the process be started about one month after a patient completes her course of Herceptin treatment.

3. Aspirin, over-the-counter food supplements and vitamins that may impair blood clotting

It is imperative that the patient stops aspirin, all vitamins, and all herbal supplements at least two weeks before the procedure.

4. Poor understanding of the procedure and inability to comply with the Brava expansion treatment

A GP referral letter with your history would be the preferred first contact prior to consultation. Alternatively, David Crabb is happy to liaise with the oncology team or the oncological surgeon to ensure timing for the procedure is optimum.

Your first contact with David Crabb may be by e-mail. He may request photos and medical details of your treatment to date. These e-mails are treated as confidential medical records.

Additional planning may be required and approval will be sought from your insurance company.

At your appointment, your history and medications will be reviewed and your smoking status taken. Your breast or mastectomy site will be examined and photographed. The distribution of fat is examined and unwanted areas of fat are identified.

A general discussion will ensue. Patients wishing to proceed will then have a fitting for the Brava bra, together with instructions for its use, and information sheets will be provided for future reference. An estimate of the costs will be provided at this time and, if you are insured, approval is then sought from your insurance provider.

A nurse contact number will be provided for ongoing support.

Where to from here?

Contact the Rodney Surgical Centre on 0800 425 007 or 0800 NEW BREAST to arrange an appointment with David Crabb.

Rodney Surgical Centre is located in Warkworth, a rural seaside town on the periphery of Auckland and close to the motorway. Warkworth is approximately one hour’s drive from Auckland airport.

See our website www.rodneysurgicalcentre.co.nz if you need help arranging accommodation.
Brava
The Brava system is placed over the breast area when you sleep. Typical patients wear the Brava for 30 days before surgery. It is fundamental and the key for a high ratio of fat survival.

Creating the vascularized scaffold
External expansion of the breast occurs via slight but consistent vacuum pressure created by Brava. Brava expands and generates growth of new tissue and blood vessels. This expansion allows room for mega volume micro-fat grafts.

Fat grafting
Your fat is harvested from several areas of your body through liposuction and strategically injected into your breasts. No cuts or incisions are made. New blood vessels form around the new fat deposits allowing for fat integration and a high ratio of fat survival.

Patient Case

Photos are courtesy of Dr Khouri of the Miami Breast Centre