

**DR DAVID A PARKER FRACS**

**ORTHOPAEDIC SURGEON**

**KNEE SURGERY**

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## **AUTOLOGOUS CHONDROCYTE IMPLANTATION**

### **PATIENT INFORMATION SHEET**

Autologous Chondrocyte Implantation (ACI) is a process whereby articular cartilage cells (chondrocytes) are collected, multiplied in a laboratory to increase cell number and then re-implanted (after approximately 4 weeks) with a special surgical technique into the damaged area of the knee. This would allow cell growth and cartilage repair to occur producing new, durable cartilage.

The hospital will contact you on the day prior to your surgery to advise you of your admission time. You will also be instructed not to eat or drink anything from midnight the night before your surgery until the surgery has been completed.

The operation is carried out under general anaesthetic. It takes approximately 2 hours after which the leg is placed in a knee immobilizer and rested for 24 hours, to minimize the risk of patch disruption and to enable the cells to begin cartilage matrix formation.

Adequate pain relief will be provided using wound infiltration, nerve blocks or demand narcotics using Patient Controlled Analgesia while antibiotic cover will be continued for 48 hours intravenously.

Two days after the surgery, the limb will be placed on a Continuous Passive Motion Machine on a continuous or intermittent basis. Every hour, you will be required to stop the machine with the leg straight and carry out a program of contraction exercises for the thigh muscle to regain control of the knee.

You will be in the hospital for 3-4 days. During this time, the physiotherapist will instruct you how to go about walking with crutches wearing a straight-leg splint touching the operated foot to the ground without putting weight on the leg. The brace should be worn day and night and removed only when doing your knee curl exercises (lying on your stomach) and for showering. You will continue to do your quadriceps contraction exercises hourly, throughout waking hours, without removing the brace.

Before you leave the hospital the nursing staff will make an appointment for you to see your surgeon at approximately ten days from surgery. At this time the wounds will be checked, and an assessment made of pain, swelling, quadriceps control and functional capacity. You will continue to use the brace and crutches. You will again be seen at three weeks from surgery at which time non-resistive cycling and swimming can be added to your program. The duration at which you can start weight-bearing on the leg and be shifted to a range of motion brace will depend on the location of the lesion in your knee.

You will again be reviewed at six weeks to check your progress. At nine weeks from surgery, you should be able to walk without the crutches and at twelve weeks, the brace can be discarded. Activities requiring standing and walking can commence however, all activities such as squatting, kneeling, stair-climbing and bent knee activity should be delayed until six months from implantation, if possible.

Return to sport is not advised within twelve months of implantation and high impact activities should be avoided for two years.

***The post-operative regimen is a standard guide, however each patient is different and the program is modified according to progress and capabilities.***