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POST-OPERATIVE GUIDELINES FOLLOWING AN OPEN WEDGE KNEE OSTEOTOMY

Goals:

Individual goals may be established outside of this protocol for some patients who may have other concurrent surgeries or bone quality outside of normal. The opening wedge osteotomy should be treated as a proximal tibial fracture (which in essence it is in a controlled situation) which must be treated very cautiously in the initial period after surgery to allow bone healing. In addition, the patient should avoid the use of nicotine. Range of motion is encouraged in the early post-operative period to prevent scarring of the joint, but weight bearing should be minimised until cleared by Dr. Barrow.

Crutches	4 to 6 weeks touch weight bearing, and partial weight bearing for a further 3 to 6 weeks. **This will vary according to the size of the wedge and location**.
Brace	6 to 8 weeks. The flexion setting on your brace will be adjusted accordingly by Dr. Barrow or your Physiotherapist. Note: the brace is in situ to provide support NOT to restrict movement. Full flexion or the knee is to be achieved as soon as possible according to pain. The brace must not be locked, but open at the desired amount of flexion.
Stocking	10 days
Driving	Consult with Dr. Barrow or your Physiotherapist.
Stationary bike	7 to 8 weeks
Elliptical machine	8 to 12 weeks
Swimming (crawl)	8 weeks
Jogging in a straight line	4 to 5 months
Running on an uneven surface	6 months
Skipping / jumping	6 to 9 months
Contact sport	1 year
The above time guides are approximations only – consult with Dr. Barrow or your Physiotherapist before starting any of the above activities.	
Post-operative exercises from day 1: **To be done 4 times per day:** • Isometric quads progressing to a straight leg raise in a brace (3 x 8). • Knee pushes into bed, hold for 5 seconds (3 x 8). • Passive knee stretch using a pillow under the heel (torture pillow) – 15 minutes. • Heel slides (bend knee as far as pain allows, x 15).	
Ice (15 minutes on – 10 minutes off repeated throughout the day for the first 2 weeks).	
The brace should be worn at all times, except when the patient comes out of the brace 4 times a day to work on gentle active range of movement of the knee. Aggressive flexion should not be allowed at this point in time.	
Over the course of the first 6 weeks your Physiotherapist will introduce new exercises in addition to the exercises included in this hand-out. Start with your out-patient physiotherapy approximately 3 / 4 days post-surgery.	



Aims of rehabilitation in the first 6 weeks: • Full active and passive extension. • Decrease swelling / pain. • Functional co-contraction of quads and hamstrings. • Flexion to 90 / 100° (actively). • Strengthen quadriceps muscle and prevent a quads lag.	
Post-op week 1 to 6	• During this time, healing of the osteotomy and incorporation of the bone graft is anticipated. • The patient is kept on strict touch weight bearing. • Gentle active range of motion outside of the knee brace is allowed initially 4 times a day and this may increase as strength allows. • Frequent straight leg raises in a brace throughout the course of the day are encouraged to get the quadriceps mechanism firing adequately. • The brace should be worn throughout this period to minimise the stress on the osteotomy site.
Post-op week 7 to 8	• At this point in time, it is anticipated that further healing of the osteotomy site is occurring. • The patient is allowed to provide further stimulation to the healing process by initiation of range of motion and general quadriceps strengthening with an exercise bike. • Minimal resistance should be applied through the stationary bicycle. • The patient should start initially at a slow speed and primarily work on range of motion. • The speed can be increased as tolerated depending upon the patient's symptoms.
Post-op week 9 to 12	• Based upon Dr. Barrow's approval, the patient is allowed to start weaning off the crutches to initiate weight bearing. • Patient should show radiographic evidence of healing at this point. • Weight bearing should be advanced slowly and should be discontinued if the patient shows any evidence of pain in the joint or at the osteotomy site. • Once ready the patient is allowed to only use one crutch under the contralateral arm. • Once the patient can ambulate with full weight and no limp, they can graduate to using no crutches. • At this point in time, they can start leg presses to a maximum of 18kgs. Patient can perform 3 sets with a maximum of 20 repetitions on a daily basis.
Post-op months 3 to 4	• At this point in time, the osteotomy should be healed and the patient should be able to ambulate normally without a limp. • Based on evidence of radiographic healing, the patient is allowed to increase activities as tolerated. • The use of the exercise bike may be increased to 20 minutes daily with resistance as tolerated. • Leg presses may also be increased to a maximum of half body weight as tolerated. • Patients should also continue to work on a general strengthening programme which will consist of ambulation to a maximum of 3.2kms daily. • Low impact activities should be stressed.
Post-op months 5 to 6	• The patient should be allowed to return to full low impact activities as tolerated.