

## **PRE-OPERATIVE ACL PROTOCOL**

Research has shown that post-operative outcomes are affected by the condition of the knee going into surgery. The goals that need to be met prior to undergoing surgery are as follows:

- Minimal effusion/swelling
- ROM 0-130°
- Good quad activation
- Normal gait

To control effusion, RICE is employed:

- Rest and stay off your feet for prolonged periods
- Ice 10-15 minutes every hour
- Compression – use a neoprene sleeve or ACE bandage during the day; remove at night; wrap the bandage over the ice pack
- Elevate your knee above your heart and perform ankle pumps

To improve extension ROM:

- Seated and supine hamstring stretch: hold 30 seconds and repeat 3x ea



- Seated/standing calf stretch: hold 30 sec and perform 3 times each



- Prone hangs: these will not be comfortable; try to hold for 10 minutes and just relax



To improve flexion ROM:

- Heel slides: bend as far as you can, hold 10 sec and release; repeat for 5 minutes



### Quad activation:

- Quad sets in full extension: actively tighten your quad and hold for 10 sec; repeat 30 times; to make sure you are performing correctly, act as if you are going to lift your leg up keeping your knee fully locked – this will cause you to tighten your quad.



- Short arc quads: start with no weight, place rolled up towel or foam roller under distal thigh, push thigh down and lift foot up to straighten knee fully; hold for 10 seconds; perform 30 times. Add weight if too easy. Do not perform if painful.



- Straight leg raises (all 4 directions): tighten your quad first and keep quad tight during duration of leg lift; lift and hold 10 seconds and slowly lower. Repeat 30 times each direction





- Squat to chair: try to keep weight even on both lower extremities – verify by looking at your knees at the lowest point of your squat and make sure they are parallel; try to avoid falling into the chair – just tap with your gluts and return to standing; maintain upright posture. Perform 3x10.



- Single leg balance: balance on your involved lower extremity with the knee of your stance leg slightly bent so that you challenge your muscles; try to hold for 60 seconds then switch legs; repeat 3x on each side. If too easy, close your eyes.



To normalize gait:

- Cone walking
  - step over a cup/cone with your involved lower extremity bending the knee as high as possible
  - land with the heel of your involved foot then move to a foot flat position
  - when you pick your uninvolved foot up, your involved knee should be completely extended/straight; perform a quad set on the involved side to prevent buckling or hyperextension
  - place the uninvolved foot down and roll over the toes of your involved lower extremity and repeat the process

