

CASE STUDY - *For more details contact Nick Dinsdale as above.*

Name of Patient:	Male
Age:	29 years old
Sport:	Competitive cycle racing – road racing, time trial & hill climb.
Level of Activity:	Typically, 200 / 250 mile per week.
Condition:	Intermittent patella-femoral pain (left) (existed 2 years) with significant quadriceps muscle imbalance. Consequently, the right leg has become dominant whilst the left leg has been protected.

Patella-femoral pain with muscle imbalance and dominant right leg



History:

The patient contacted us with patella-femoral pain (left knee). The problem gradually started some two years earlier in following on from an earlier knee problem. The patient had continued to ride and race, quite successfully, accruing a number of wins.

Weekly mileage remained between 200-250 miles. As can be seen from the photo a significant muscle imbalance exists between the two sets of quadriceps.

As a result of protecting the injured (left) knee, the dominant (right) leg gradually became stronger. Muscle imbalance often leads to a disruption in smooth pedalling, and potential loss in power output.

Examination:

- Muscle imbalance – girth measurements were taken on four separate occasions and recorded – see below.
- Significant subtalar pronation – approx 6-7 degrees.
- Tightness in lateral aspect of left thigh (ITB), confirmed by positive Ober test.
- Knee ROM found to be normal.
- Knee ligaments tested, found normal (negative)

Agreed Treatment Plan:

Short-term: (treat patella-femoral pain)

- Treat subtalar pronation with orthotics.
- Specific muscle strengthening for Vastus Medialis.
- Specific stretching exercises for tight ITB.

Long-term: (treat muscle imbalance)

- Produce Rehab Plan.
- Specific muscle strengthening – progressive build.
- Measure & monitor progress.

	Position	Right	Left	Differential			Position	Right	Left	Difference
Exam 1	160 cm	41 cm	39cm	2 cm		Exam 3	160 cm	41 cm	40 cm	1 cm
	220 cm	48 cm	45 cm	3 cm			220 cm	48 cm	46 cm	2 cm
	280 cm	52 cm	50 cm	2 cm			280 cm	52 cm	50 cm	2 cm
Exam 2	160 cm	41 cm	40cm	1 cm		Exam 4	160 cm	41 cm	40.5 cm	0.5 cm
	220 cm	47.5 cm	45 cm	2.5 cm			220 cm	48 cm	47 cm	1 cm
	280 cm	51.5 cm	50 cm	1.5 cm			280 cm	52 cm	51 cm	1 cm