

# Helpful tips for preventing cycling knee pain from

## THE PHYSIOSTUDIO

Cycling has been described as balancing the body on an unstable system, while simultaneously providing motive forces combined with speed and direction. The two major components are the bike and the human body. The former is adjustable but not adaptable, the latter is adaptable, but only to compensate within certain limits.

If one goes outside those limits then injuries, traumatic or overuse, will almost certainly occur.

The human body makes contact with the bike at three points;

- Hands (handlebars)
- Pelvis (saddle)
- Feet (pedals)

If these three points of contact are disregarded and set up incorrectly then almost certainly overuse and traumatic injuries will occur. One can try to adjust the bike to the person but one cannot adjust the person to the bike without a great deal of difficulty.



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## BIKE ADJUSTMENTS BASED ON LOCATION OF KNEE PAIN

Location	Causes	Solutions
<b>Anterior</b>	Seat too low	Raise seat
	Seat too far forward	Move seat back
	Climbing too much	Reduce climbing activity
	Big gears, low rpm	Lower gears, more rpm
	Cranks too long	Shorten cranks
<b>Medial</b>	Cleats - toes point out	Modify cleat position - toes in
	Floating pedals	Limit float to 5 deg or fixed cleat
	Exiting clipless pedals	Lower tension
	Feet too far apart	Modify cleat position move closer Shorten bottom bracket axle Use cranks with more offset Shim pedal on crank 2mm
<b>Lateral</b>	Cleats - toes point in	Modify cleat - toe out Consider float pedals
	Floating pedals	Limit float to 5 deg or fixed cleat
	Feet too close	Modify cleat position move apart Longer bottom bracket axle Use cranks with more offset Shim pedals on crank 2mm
<b>Posterior</b>	Seat too high	Lower seat
	Seat too far back	Move seat forward
	Floating pedals	Limit float to 5 deg or fixed cleat



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